V13608

SLV-725/B/NC/VC
RMT-V127A

SERVICE MANUAL

AEP Model
SLV-725
French Model
SLV-725B
North European Model
SLV-725NC
Germany Model
Swiss Model
SLV-725VC

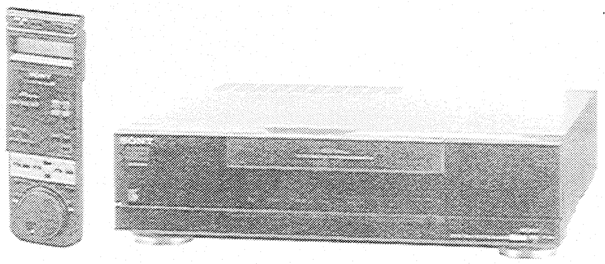

Photo:SLV-725

- Refer to the SERVICE MANUAL of VHS MECHANICAL ADJUSTMENT II for MECHANICAL ADJUSTMENTS. (9-972-816-11)

SPECIFICATIONS

Channel coverage	VHF channels E2-E12 (A to H only for Italy) CATV channels S01-S03 CATV channels S1-S20 HYPER S21-S41 UHF channels E21-E69
Usable video cassettes	VHS video format cassettes NTSC cassette recorded in SP mode can be played back on a PAL system television set

Inputs and Outputs

Video inputs	LINE IN 2: phono jack EURO-AV (LINE 1): 21-pin (pin 20) SLV-725/725B/725NC EURO-AV (LINE3): 21-pin (pin 20) SLV-725 VC EURO-AV (LINE 3) PAY-TV DECODER 21-pin (pin 20)
Audio inputs	LINE IN 2: phono jack EURO-AV (LINE 1): 21-pin (pins 2 and 6) SLV-725/725B/725NC EURO-AV (LINE 3): 21-pin (pins 2 and 6) SLV-725VC EURO-AV (LINE 3) PAY-TV DECODER 21-pin (pins 2 and 6)
Video output	LINE OUT : phono jack EURO-AV (LINE 1): 21-pin (pin 19)
Audio output	LINE OUT: phono jack EURO-AV (LINE 1): 21-pin (pins 1 and 3)
CONTROL L	Stereo mini-minijack (1)
CONTROL S IN/OUT	Minijack (2)
Microphone input	Minijack
Headphone output	Stereo minijack

General

Power requirements	220-230V AC, 50 Hz
Power consumption	31 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	–20°C to 60°C (–4°F to 140°F)
Dimensions	Approx. 430 X 115 X 395 mm (w/h/d) (18 3/8 X 4 5/8 X 15 5/8 inches) including projecting parts and controls.
Weight	SLV-725/725VC/725B 7.3 kg (16 lb 2oz) SLV-725NC 7.5 kg (16 lb 9 oz)

Accessories Supplied
See page 5.

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC directive 87/308/EEC regarding interference suppression.

Remote commander RMT-V127A is supplied as a unit for service. Don't supply individual parts except for the timer cover and the battery cover.

VHS VIDEO CASSETTE RECORDER

SONY®

MICROFILM

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

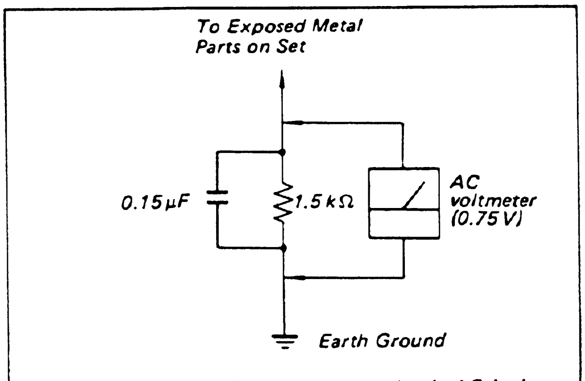

Fig. A. Using an AC voltmeter to check AC leakage.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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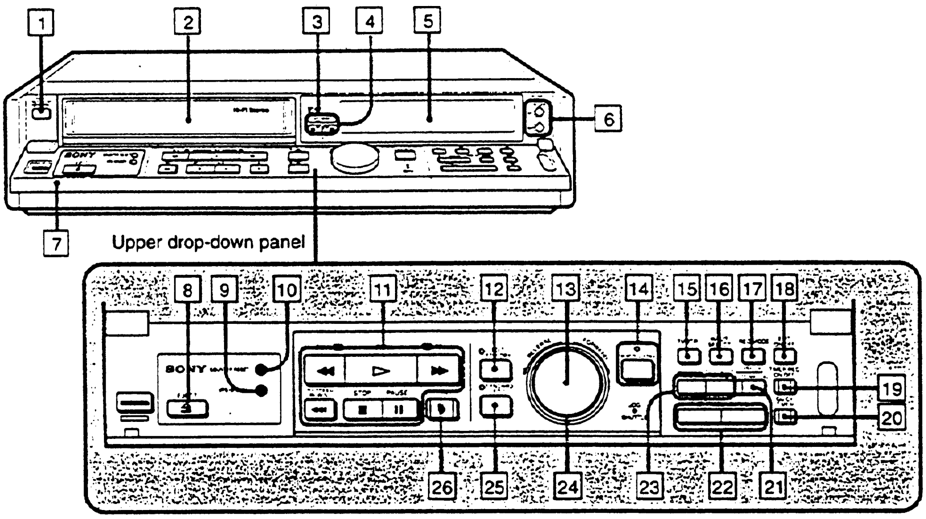
SECTION 1
GENERAL

This section is extracted from instruction manual of SLV-725/B/NC/VC.

Identifying the Parts and Controls



Front Panel

See the indicated pages.

1 ON/STANDBY switch and indicator 7, 14
The indicator lights up in green when the VCR is turned on, and in red when the VCR is in standby mode.

2 Cassette compartment 15

3 Remote Sensor

4 Indicators
AUTO TRACKING 19
AUDIO INSERT 60
VIDEO INSERT 60

5 VCR Display panel 65

6 REC LEVEL controls 46

7 Upper drop-down panel

8 ≜ EJECT button 15

9 VPS (ON/OFF) button 28
(This button is provided on the SLV-725VC models only)

10 COUNTER RESET button 17, 59

11 Tape transport buttons
◄◄ REW (rewind) button
► PLAY button
►► FF (fast forward) button
◄◄◄HI-SPEED REWIND
■ STOP button
❚❚ PAUSE button

12 EDIT STANDBY button and indicator 57

13 JOG dial 9, 13, 20, 21, 29, 33, 49, 58, 59

14 LANC REMOTE button and indicator 58

15 TV/VTR button 7, 14

16 INPUT SELECT button 7, 14, 24, 52, 57

17 REC MODE (SP/LP) button 4, 24, 46, 52, 57

18 EDIT ON/OFF button 53, 59

19 TIMER REC ON/OFF button 23, 24, 25, 27

20 QUICK TIMER button 24

21 TRACKING AUTO/MANUAL button 19

22 PROGRAM +/– buttons 10, 13, 20, 29, 30, 49

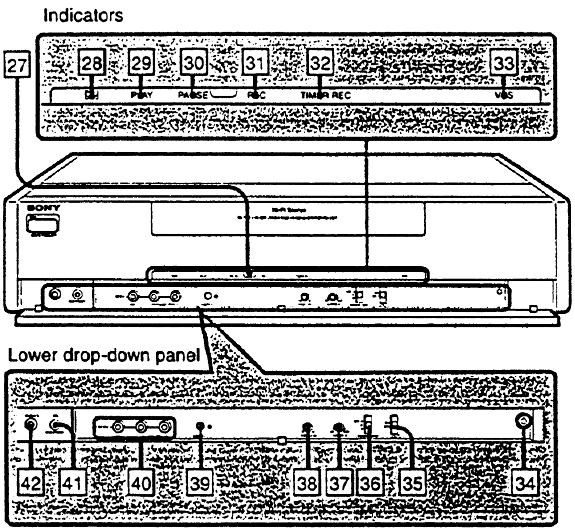
23 TRACKING NORMAL/SLOW (STILL ADJUST) ▼/▲ buttons 19, 33

24 SHUTTLE ring 33, 58, 59

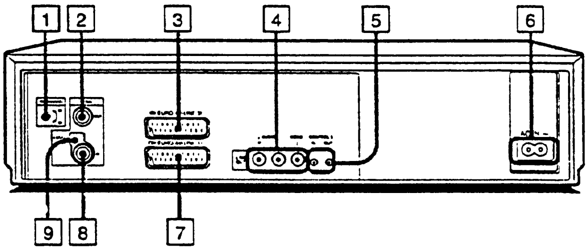
25 SYNCHRO EDIT button and indicator 58

26 ● REC (record) button 20, 21, 49

Front Panel


Indicators
27
28
29
30
31
32
33
PLAY
PAUSE
REC
TIMER REC
VPS
SONY
Lower drop-down panel
42
41
40
39
38
37
36
35
34

Rear panel



27 Remote Sensor

28 (cassette) lamp

29 PLAY lamp

30 PAUSE lamp

31 REC lamp

32 TIMER REC lamp

33 VPS lamp
(This indicator is provided on the SLV-725VC models only)

34 CL (clear) button 67

35 NTSC PB ON PAL TV (ON/OFF) switch 16, 17

36 COMMAND MODE VTR1/2/3 selector 8

37 SHARPNESS SOFT/SHARP control 16

38 PHONE LEVEL MIN/MAX control

39 CONTROL L ℄ jack 54

40 LINE IN 2 VIDEO/AUDIO jacks 46, 47, 51, 54

41 MIC (microphone) jack 60

42 PHONES (headphones)jack

1 RF CHANNEL screw (30-39) 14

2 AERIAL OUT socket 6, 28

3 ← EURO-AV (LINE 3) (21-pin) socket
(SLV-725/725UB/725NC) 51, 55
← EURO-AV (LINE 3) PAY-TV DECODER
(21-pin) socket (SLV-725VC models only)
28, 51, 55

4 LINE OUT AUDIO/VIDEO jacks 6, 53

5 CONTROL S IN/OUT jacks 55

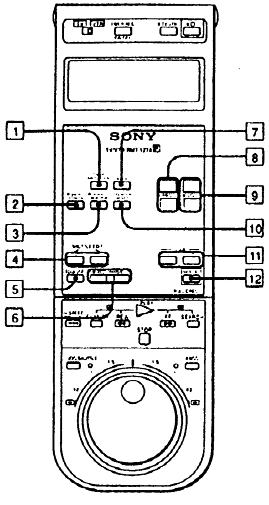
6 AC IN inlet

7 → EURO-AV (LINE 1) (21-pin) socket 6, 28, 51

8 AERIAL IN socket 6

9 LOCAL/DX switch 14

Remote Control (with flap closed)



The buttons on the Remote Control with the same name or mark as those on the unit have the same function. The buttons with an orange dot can be used to remotely control Sony TVs having the ▣ mark when the TV/VTR selector is set to TV. The TV/VTR button and/or the -/-- (10's digit) button cannot operate certain Sony TVs.

1 TIMER ON SCREEN button 25

2 DATA SCREEN button 17, 19, 41, 42

3 AUDIO MONITOR button 18, 43, 45

4 SHUTTLE EDIT buttons 49, 59

5 II PAUSE button 16, 21, 32, 48, 49

6 ● REC (recording) buttons 20, 21, 49

7 INDEX button 41, 42

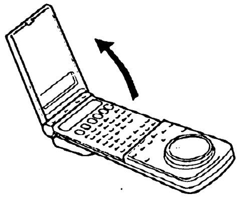
8 PROG (programme) +/– buttons 10, 13, 20, 22, 29, 30, 49

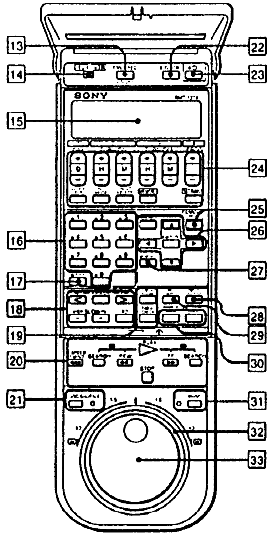
9 VOL (TV volume) +/– buttons
Press to control the volume of the TV.
Effective only for Sony TVs with the ▣ mark.

10 COUNTER RESET button 17, 59

11 AUDIO/VIDEO INSERT buttons 60

12 REPLAY button 32





Remote Control (with flap opened)

13 TIMER REC (ON/OFF) button 23, 24, 25, 27

14 TV/VTR remote control selector 8, 20

15 Remote display 65

16 Programme position number buttons 13

17 -/-- (10's digit) button 13

18 Various speed playback buttons 32, 33

19 TIMER CHECK/TIMER CLEAR buttons 26

20 Tape transport buttons 16, 20, 32, 37, 41, 42, 49, 60
- ◁◁/▷▷ SEARCH (reverse/forward)
- ◀◀ REW (rewind)
- ▶ PLAY
- ▶▶ FF (fast forward)
- ■ STOP
- ◀◀◀ HI-SPEED REWIND

21 JOG/SHUTTLE function button and indicator 33, 49, 59

22 TV/VTR button 12, 20, 29, 30, 31

23 ⏻ (on/standby)button 16, 27

24 Timer recording/clock set buttons 11, 22, 23, 26, 27

25 COMMAND MODE button 8

26 Menu operation buttons 9, 10, 12, 13, 18, 29, 31, 35-38, 44, 47, 56

27 FUNCTION MEMORY button 36

28 INPUT SELECT button 23, 29, 47, 49

29 REC MODE select button 20

30 INDEX MARK and ERASE buttons 40, 42

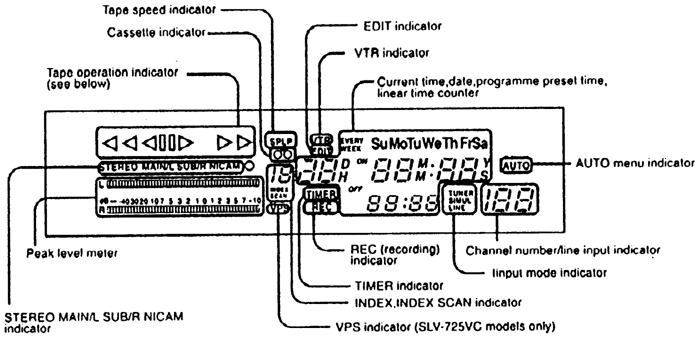
31 PROG (programme) function button and indicator 9, 13, 20, 21, 29, 49

32 SHUTTLE ring 33, 57, 59

33 JOG dial 9, 13, 33, 57, 59

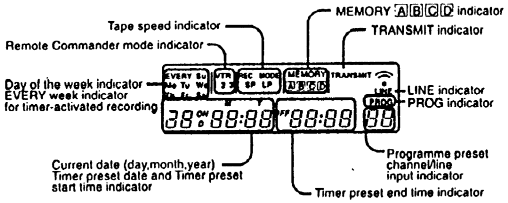
Note on the TV/VTR remote control selector
When you set the TV/VTR remote control selector on the Remote control to TV, the TV/VTR button cannot operate some Sony TV's.

VCR Display Panel

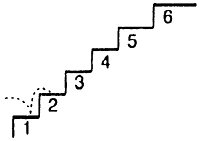

Tape speed indicator
Cassette indicator
Tape operation indicator (see below)
EDIT indicator
VTR indicator
Current time,date,programme preset time, linear time counter
SuMoTuWeThFrSa
AUTO menu indicator
Peak level meter
STEREO MAIN/L SUB/R NICAM indicator
REC (recording) indicator
Channel number/line input indicator
Input mode indicator
TIMER indicator
INDEX,INDEX SCAN indicator
VPS indicator (SLV-725VC models only)

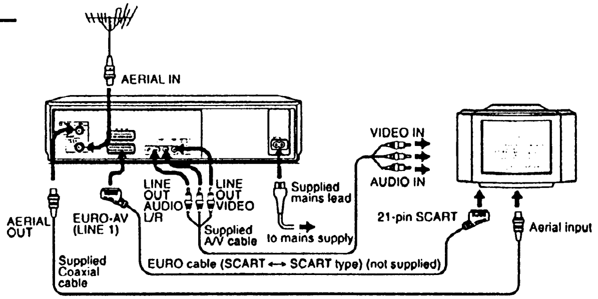
REC	Recording	◀❙	Slow playback, (reverse)	▶ ▶▶	Picture search, locked picture search (forward)
REC+❙❙	Recording pause	❙❙ ▶	Play pause (forward)	◀◀ ▶	Picture search, locked picture search (reverse)
▶	Playback, double speed playback (forward)	◀−❙❙	Play pause (reverse)	◀◀ ▶ − AUTO	Auto play (REW-PLAY)
◀	Playback, double speed playback (reverse)	▶▶	Fast forward		
❙▶	Slow playback, (forward)	◀◀	Rewind	◀◀◀	High speed rewind

Remote Display


MEMORY A B C D indicator
TRANSMIT indicator
Tape speed indicator
Remote Commander mode indicator
Day of the week indicator
EVERY week indicator for timer-activated recording
LINE indicator
PROG indicator
Current date (day,month,year) Timer preset date and Timer preset start time indicator
Programme preset channel/line input indicator
Timer preset end time indicator

Step 2 Connecting the VCR




AERIAL IN
VIDEO IN
AUDIO IN
LINE OUT AUDIO L/R
LINE OUT VIDEO
Supplied mains lead
to mains supply
Supplied A/V cable
AERIAL OUT
EURO-AV (LINE 1)
21-pin SCART
Aerial input
Supplied Coaxial cable
EURO cable (SCART ←→ SCART type) (not supplied)

1 Turn the VCR round so you can see the rear panel.

2 Disconnect the aerial input lead from your TV and connect it to the socket marked "AERIAL IN" on the rear of the VCR.

3 Connect the coaxial cable (supplied with the VCR) to the socket marked "AERIAL OUT" on the VCR and then plug it into the aerial input socket on your TV.

4 Check all connections and ensure they are firm.

5 Take the mains lead and plug it into the socket on the back of the VCR marked "AC IN". Then plug the other end into the mains supply.

Additional Connections

The hookup using the supplied coaxial cable shows the basic hookup to watch and record TV programmes. If your TV has a SCART connector, or the phono type audio/video input jacks, make additional connections. Additional connections can improve playback picture quality.

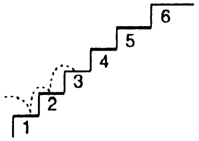
If your TV has a SCART connector: connect the EURO-AV connector of this VCR and 21-pin SCART connector on your TV, using the VMC-2121CE cable (SCART connector, not supplied).

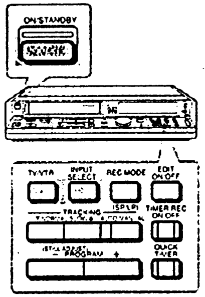
If your TV has the phono type audio/video input jacks: connect the LINE OUT AUDIO/VIDEO jacks of this VCR and the AUDIO/VIDEO IN jacks of your TV, using the AV cable (supplied).

If you have made the VCR-TV connection using the LINE OUT AUDIO/VIDEO jacks, you can't use the on-screen information display.

Important
If you have made the VCR-TV connection using the EURO-AV connector, open the main MENU, move the arrow to "RF MODULATOR" and select "OFF." See "Customizing Your VCR" on page 38 for details.

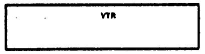
Step 3 Tuning the VCR to Your TV





1 Having completed **Step 2**, press ON/STANDBY on the front of the VCR so that the green light above the button lights up. If you have made additional connections, skip **step 3**.

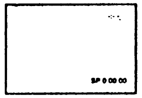
2 Press TV/VTR several times until "VTR" appears in the VCR display panel on the inside surface of the upper drop-down panel.



3 Press INPUT SELECT (on the inside surface of the upper drop-down panel of the VCR). Each time you press this, part of the display on the VCR will change. Keep pressing until "LINE L2" shows.

4 Turn on your TV and select a programme position that is not used to receive a TV station (in the UK, 0 or 9 perhaps).

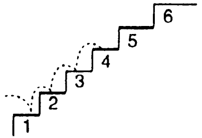
5 Tune the TV so that a blue screen with tape counter (0:00:00) is clearly displayed on the TV screen. (If you have difficulty, please refer to the instructions for tuning your TV.)

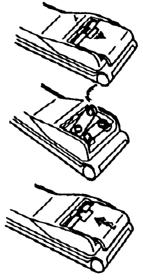


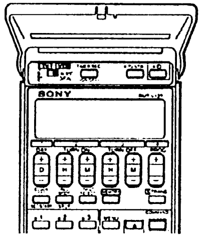
6 Press INPUT SELECT again, and keep pressing it until "TUNER" shows in the VCR display panel.

You have now tuned your TV to the VCR. Whenever you wish to receive the VCR's playback picture on the TV, turn to the TV programme position you have set for the VCR, switch on the VCR and press TV/VTR.

Step 4 Preparing the Remote Control







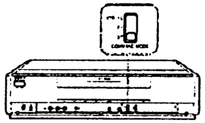
1 Take the remote control and turn it over so that the remote display cannot be seen.

2 Slide and remove the cover.

3 Insert two R6 batteries.

4 Close the cover. Now you have "·D VTR 3 -:- -" in the remote display. If you don't, check the battery polarities and position the batteries correctly. Also check that "VTR 3" is shown in the remote display. If not, lift the flap of the remote control and press COMMAND MODE several times until the command mode display "VTR 3" is shown in the remote display.

5 Check that the COMMAND MODE 1/2/3 selector (inside the lower drop-down panel of the VCR) is positioned at "VTR 3." If not, slide the selector so that it is positioned at "VTR 3."

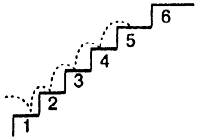


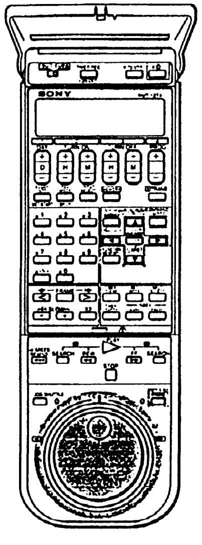
6 Set the TV/VTR remote control selector to "VTR."

Notes on batteries
- Under normal operation, batteries last for about three months. If the remote control, however, is not to be used for a long period, remove the batteries from the compartment to avoid possible damage from battery leakage.
- Do not use a new battery together with an old one.
- Do not use different types of batteries.

Note
When you insert the batteries into the remote control, the indication "VTR3" appears in the remote display. That tells you that the command mode setting of the remote control is set to "VTR3."

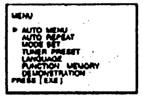
Step 5 Tuning the VCR to the Required Stations





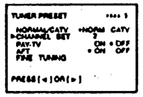
Now that you have the blue screen on your TV, you can tune the individual channels on your VCR to receive the required stations.

1 Lift the flap on the remote control, point the remote control at the VCR and press MENU. The following menu comes up.



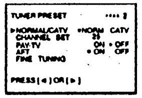
If you want to use the different language that is now displayed on the screen, see page 12.

2 Using ▲ or ▼ of the cursor keys on the remote control, move the cursor (▶) on the TV screen down to "TUNER PRESET", and then press EXE on the remote control. The menu shown at the right will appear on the TV screen:*



****The screen display differs depending on the model.***
- To SLV-725UB users: "NORMAL/CATV" does not appear on the TV screen of your model. Therefore, skip steps 3 and 4 below.
- "PAY-TV" appears on SLV-725VC models only.

3 **All except SLV-725UB models:** using ▲ or ▼ of the cursor keys on the remote control, move the cursor (▶) on the TV screen up to "NORMAL/CATV." Then, move the dot to NORM using the left cursor key.

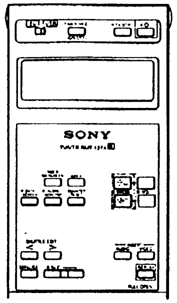


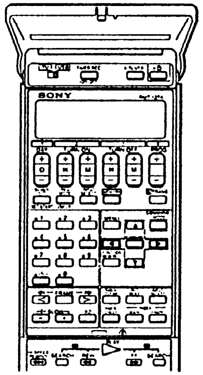
4 **All except SLV-725UB models:** using ▲ or ▼ of the cursor keys on the remote control, move the cursor (▶) on the TV screen down to "CHANNEL SET."

5 Close the flap and press PROG +/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR to select the programme position.**
The programme number will change in the VCR display panel and on the TV screen.

*****Another way to select the programme position is:***
Press the PROG function button on the remote control to light the indicator beside the button and turn the jog dial clockwise for higher numbered programme position or counterclockwise for lower numbered programme positions.

(Continued)





If the received picture is unclear
Press ◀ or ▶ of the cursor keys on the remote control until you get a clearer picture.

6 Once you have selected the programme position, open the flap and tune to the channel required using ◀ and ▶ of the cursor keys on the remote control.
The channel number automatically increases with ▶ and decreases with ◀. (In Italy, channel numbers 13 to 20 correspond to channels A to H.)
The number stops changing when the first broadcast programme received is displayed; the programme will be displayed briefly before the screen turns blue again.

7 If this is the broadcast programme required*, press EXE to store it. If it is not, keep searching, i.e. go back to step 6.

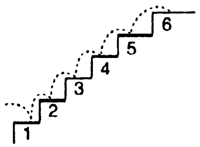
8 Now that you have stored a channel against your chosen programme number, go back to step 1 and repeat storing all the channels required against the different programme numbers.

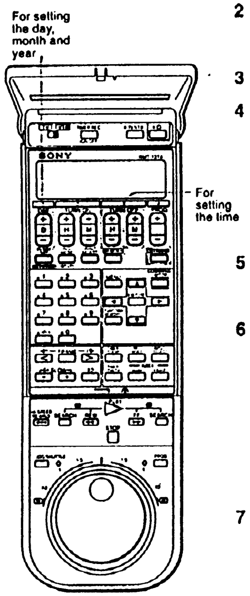
*A faster way to store broadcast channels (say, if your area has a lot of broadcast channels) is to do the following alternative steps 7 and 8:

7 If this is the broadcast programme required, press PROG+ once (on the remote control) to automatically store it. To store the next broadcast channel, return to step 5.

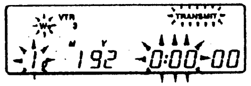
8 Having stored all the broadcast channels against your chosen programme numbers, press EXE.

Step 6 Setting the Clock





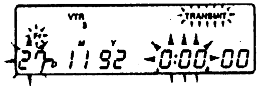
The last thing you need to do in Getting Started is set the clock on the remote control.



1 To do this, lift the remote control flap.

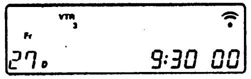
2 The items in the remote display flash to tell you that the remote control is ready to receive your clock setting data.

3 Press CLOCK SET.



4 Press the button marked "D" (top to go forward and bottom to go backwards) until today's day, date, month and year are indicated. Keep pressing the "D" button going through the dates, months and years until the correct data is set.
If you keep the "D" button pressed, the display will change more rapidly.

5 Press the H and M rocker buttons under the flashing "0:00" on the remote display. Use these buttons to set the correct time. Once done the correct date, month, year and time are all shown on the remote display.



6 When you are satisfied that all the information is correct, point the remote at the VCR and press TRANS at the exact time corresponding with a time signal from the accurate clock, radio, telephone and so on.
The clock will start at 00 second.
The correct time should appear in the display on the front of the VCR when the VCR is off.

7 Close the remote control flap.

The following section "Additional Presetting Functions" describes various functions concerning setting up your VCR. Read through the section briefly to get to know the functions.

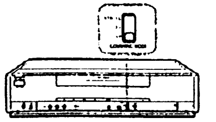
Now that you have finished all the things you should do in "Getting Started", you should proceed to "Basic Operations" to enjoy real home video life.

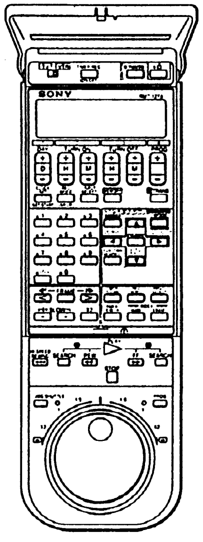
When ·:·· lights up in the VCR display panel
Any time power is interrupted for more than one hour, you will see ·:·· lighted when power is restored. You will have to re-set the date and clock again.

When a short beep sounds repeatedly
The VCR is in timer recording or quick timer recording or standby mode for timer recording, and the setting cannot be transmitted.

To correct the preset date and time
Open the remote control flap, repeat steps 2 to 7.

Additional Presetting Functions





Controlling Other Sony VCRs with This Remote Control

If the equipment has a command selector
Set the command mode selector to other position than "VTR 3", and press COMMAND MODE several times until the same command mode display as you have selected for the equipment is shown in the remote display.

If the equipment doesn't have a command selector
The command mode of this remote control should correspond to the settings listed below.

- If other equipment is a Sony Betamax infrared remote control VCR, select VTR 1.
- If other equipment is a Sony 8 mm format VCR, select VTR 2.
- If other equipment is a VHS format VCR, select a command mode position other than "VTR 3," which is selected for this VCR.

Selecting the Language on the MENU

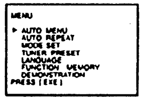
Most of the operations are done using the on-screen display (MENU). You can also select the language you want to display on the TV screen. Once you have selected the language, you can use the on-screen display in your language.

1 Turn on the TV and VCR.

2 Press TV/VTR on the remote control several times until "VTR" appears in the VCR display panel. (If you have made only an aerial connection, turn to the video channel you set the VCR to in Step 3.)

3 Lift the remote control flap.

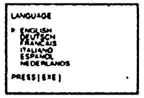
4 Press MENU.
The main MENU appears on the TV screen.



```
MENU

▶ AUTO MENU
  AUTO REPEAT
  MODE SET
  TUNER PRESET
  LANGUAGE
  FUNCTION  MEMORY
  DEMONSTRATION
PRESS [EXE]
```

5 Move the cursor (▶) to "LANGUAGE".

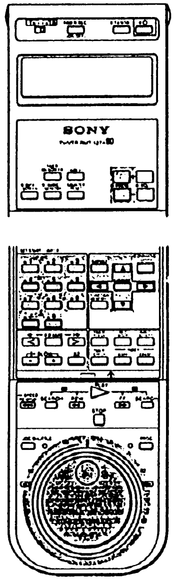
6 Press EXE.
The LANGUAGE menu appears.



```
LANGUAGE

▶ ENGLISH
  DEUTSCH
  FRANCAIS
  ITALIANO
  ESPANOL
  NEDERLANDS

PRESS[EXE]
```

7 Select the language which you want to use for the on-screen display, using ▲ or ▼ of the cursor keys on the remote control.

8 Press EXE when you have finished selecting your option.



On FINE TUNING indicator
This indicator shows the operable fine-tuning range and stops at the optimal point of reception. When the VCR's tuner is receiving an optimal broadcast signal, the indicator stops at the centre position or one space right or left of the centre position. However, even when a broadcast is received in an optimal condition, the indicator may not be at the position described.

Allocating the Channels Directly

Enter the desired programme numbers using the programme position number buttons. To enter one's digits, press the desired number. To enter two digits numbers, press the -/-- (10's digit) button, then press the ten's digit number and the one's digit number.

Disabling Unwanted Channels

If you want to let only desired programme positions appear when you select the programme position for normal recording, quick timer recording or timer-activated recording, you can do this by following the procedure below.

1 Press MENU, move the cursor (►) down to "TUNER PRESET" and press EXE.

2 Press PROG +/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR until the programme position you want to disable appears in the PROG field of the TUNER PRESET menu.
You can also use the jog dial to select the programme position.
To use this, press PROG function button to light the indicator beside the button.

3 Press programme position number button 0 twice or keep pressing the left and right cursor keys until "0" is displayed in the CHANNEL SET field.

4 Repeat steps 2 and 3 to disable other programme positions.

5 Press EXE.

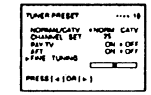
If You Can't Get a Clearer Picture
–Fine -Tuning

Normally, the Auto Fine Tuning (AFT) setting on the TUNER PRESET menu is set to ON, and the AFT function fine-tunes the picture. If the picture of a programme is not acceptable, fine-tune it manually.

1 Select the programme position in which the picture is distorted using PROG +/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR.
You can also select the programme position by pressing the PROG function button on the remote control to light the indicator beside the button and turn the jog dial clockwise or counterclockwise.

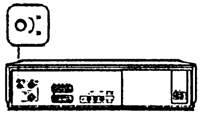
2 Press MENU, move the the cursor (►) down to "TUNER PRESET" and press EXE.

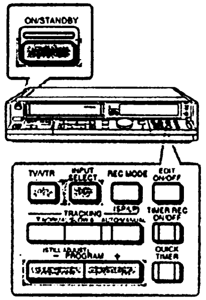
3 Press ▲ or ▼ of the cursor keys to move the cursor (►) down to FINE TUNING.
The FINE TUNING indicator is displayed in the TUNER PRESET menu.

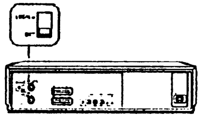


4 Press ◄ or ► of the cursor keys to get a clearer picture.
The AFT function switches off automatically.

5 If you can't get a better picture, press ▲ to move the cursor (►) up to "AFT," select "ON" and press EXE.
The TV screen returns to the original screen.







If You Have Failed in Tuning the VCR to Your TV

1 Find a UHF channel between 30 and 39 where there is no picture and you can hear a steady rustling sound or no sound at all.

2 Press INPUT SELECT several times until "LINE L2" appears in the VCR display panel.

3 Press TV/VTR several times until "VTR" appears in the VCR display panel.

4 With the supplied plastic adjuster, turn the RF CHANNEL screw (at the rear of the VCR) to a channel where your TV clearly displays a blue screen with the tape counter.

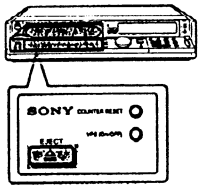
5 Press INPUT SELECT several times until "TUNER" appears in the VCR display panel.

6 Press PROGRAM +/– to see if the TV screen changes to a different channel.

If the TV Signal is too Strong

You can strengthen or attenuate the reception signals using the LOCAL/DX switch at the rear of the VCR.
Normally set this switch to the DX position. If the reception signals are very strong, set it to the LOCAL position.

Playback



This section shows you how to play back a video cassette.

Inserting a Video Cassette

1 Open the upper-drop down panel.

2 Insert a video cassette.

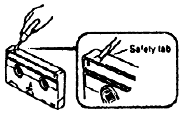
3 Gently press the centre of the front side of a cassette with the arrow indication facing upwards until the mechanism draws it into the compartment.
When the cassette has been loaded, the cassette indicator ▭ lights in the VCR display panel and the VCR turns on automatically.
If you insert a cassette with its safety tab removed, playback starts automatically.

Ejecting the Cassette

Press ⏏ EJECT on the VCR.

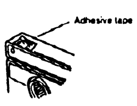
You can eject the cassette even if the power is off.
When you press ⏏ EJECT, the power is turned on. After ejecting the cassette, the power automatically shuts off.

Note
You cannot eject a cassette during recording or recording pause mode.

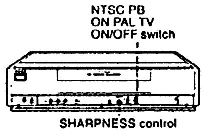


Protecting your cassette against accidental erasure

The cassette is provided with a safety tab to protect against accidentally erasing a previous recording. Break off the safety tab with a screw driver or a similar tool as shown on the illustration at left. If the safety tab is removed, the VCR ejects the cassette when you try to record on the cassette.



To record on a cassette with the safety tab broken off, simply cover the tab hole with adhesive tape.



Playing Back a Cassette

The VCR automatically detects the tape speed (SP or LP) with which a cassette was recorded. If you insert a cassette with its safety tab removed, playback starts automatically.

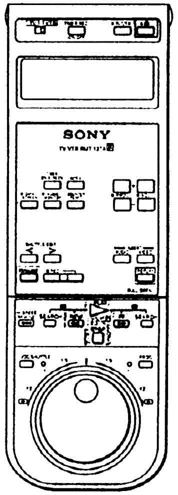
1 Insert a cassette.
The VCR turns on automatically.

2 Press TV/VTR several times to light up the VTR indication in the display window of the VCR.

3 Turn on the TV.
If you have made only an aerial connection, turn to the programme position you set the VCR to in "Step 3 Tuning the VCR to your TV" on page 7.

4 Set the NTSC PB ON PAL TV ON/OFF switch to "ON" if you play back an NTSC-recorded tape.

5 Press ▶ PLAY.
When the tape reaches the end, it automatically rewinds.



Never unplug the power cord while the tape is in motion
This may cause the tape to be jammed in the VCR. When you need to unplug the mains lead, be sure to remove the cassette or turn off the power of the VCR.

To stop playback
Press ■ STOP.

To stop play back for a moment
Press II PAUSE.
Press II PAUSE again or press ▶ PLAY to resume playback.

To advance the tape rapidly
Press ■ STOP, then ▶▶ FF.

To rewind the tape.
Press ■ STOP, then ◀◀ REW.

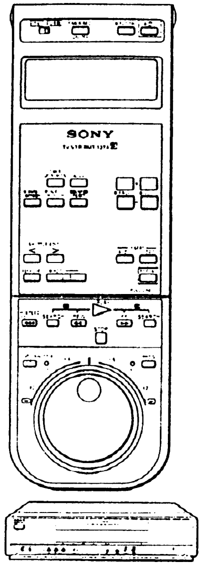
To rewind the tape at a higher speed
Press ◀◀◀ HI-SPEED REWIND.

To start playback automatically after rewinding a cassette (AUTO PLAY)
This feature works only from the VCR.
Press ▶ PLAY while holding ◀◀.
The "▶" indication flashes while the tape is being rewound.

To view the picture during fast forward mode or rewind mode
Keep pressing ▶▶ during fast forward, and keep pressing ◀◀ during rewind.
Release the button to return to fast forward or rewind.

To turn the VCR on or off
Press ON/STANDBY on the VCR or ⏻ on the remote control.

Adjusting the sharpness of the picture
Turn the SHARPNESS control inside the lower down-panel of the VCR.
Turn to SHARP to get a sharper picture, and to SOFT to get a softer picture.



When the data screen does not appear on the TV screen
Check to see that the LINE OUT jacks are connected to the line input jacks of the TV. If this is the case, the data screen doesn't appear.

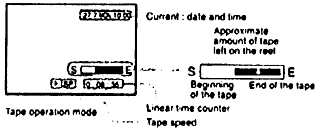
Notes on counter reading

- The counter does not work on the portions on which no recording has been made.
- After a cassette is ejected, the counter reading is retained. When a cassette is inserted in the VCR, the counter reading automatically returns to "0H00M00S."

Using the Data Screen

The data screen may appear on your TV screen when you first turn on the VCR. If the data screen does not appear, press DATA SCREEN on the remote control. The data screen does not appear when the NTSC PB ON PAL TV switch is set to ON.

The Data Screen with Tape Counter Display



To turn off the data screen

Press DATA SCREEN.

Indexing Tape Contents

You can use the tape counter as a reference to locate a desired scene by rewinding the tape.
Press COUNTER RESET on the remote control or on the VCR to set the counter to "0H00M00S" (counter zero position) before you play back or record.
To view a desired scene after playback or recording, rewind the tape to the counter zero position.

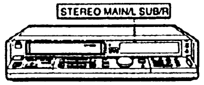
NTSC-recorded Tapes

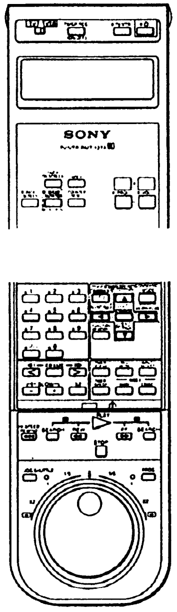
You can play back a cassette recorded in NTSC video system using the SP mode (NTSC-recorded tape) on a PAL system television set. If the tape is recorded in the Hi-Fi system, the Hi-Fi sound can be reproduced.

Slide the NTSC PB ON PAL TV ON/OFF switch to "ON" every time you watch an NTSC recorded tape.
When you watch a PAL recorded tape, return the NTSC PB ON PAL TV switch to OFF. And if you are using a TV equipped with the COLOUR SYSTEM selector switch, set the COLOUR SYSTEM selector switch to "PAL."

The following will occur during playback of an NTSC-recorded tape

- The time/tape-counter display will not appear even if you press DATA SCREEN.
- Depending on the TV you are using, the following phenomena may occur separately or in combination:
  - -the picture becomes black and white
  - -the picture shakes
  - -no picture appears on the screen
  - -black streaks appear horizontally on the screen
  - -the colour density increases or decreases
  - -the audio becomes normal audio and noise appears in LP and EP mode
- If a tape has portions recorded in PAL and NTSC video systems, the tape counter reading is not correct. This discrepancy is due to the difference between the counting cycles of the two video systems.
- You cannot edit the NTSC-recorded tape onto another VCR.





You cannot select the monitor sound in the following cases

- When a monaural tape (a tape which has no recording on its Hi-Fi track) is played back.
- When AUDIO MIX ON is selected in the MODE SET [PAGE 2] menu.

Selecting the Monitor Sound

You can select the sound you want to hear when you play back a stereo or bilingual tape, or when you want to play back a tape on which sounds were mixedly recorded on the Hi-Fi audio track and the normal audio track.

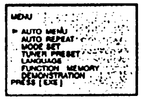
Listening to a Stereo or Bilingual Tape
Press AUDIO MONITOR to select the sound to hear.
With each press, you change from stereo (left and right channel sounds), to left-channel sound, to right-channel sound or to the sound on the normal audio track. The selected sound type appears in the display window of the VCR.

Display	Sound heard	
	Stereo tape	Bilingual tape
STEREO	Stereo	Left and right channels
MAIN/L	Left channel	Left channel
SUB/R	Right channel	Right channel
No Indication	Monaural (on normal audio track)	Sound (on normal audio track)

Listening to Mixed Sounds

You can hear the sounds recorded on the Hi-Fi audio track and the normal audio track at the same time. This function is useful when you listen to an audio-inserted tape. (For details on the audio insert function, see page 59.)

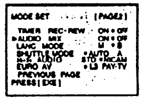
1 Press MENU.
The main MENU appears.



```
MENU
▶ AUTO MENU
  AUTO REPEAT
  MODE SET
  TUNER PRESET
  LANGUAGE
  FUNCTION  MEMORY
  DEMONSTRATION
PRESS [EXE]
```

2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "MODE SET."

3 Press EXE.
The MODE SET menu appears.
If the MODE SET [PAGE 1] menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "NEXT PAGE," then press EXE.
The MODE SET [PAGE 2] menu appears.



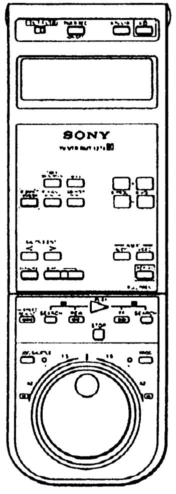
```
MODE SET            [PAGE2]
  TIMER  REC-REW     ON • OFF
▶AUDIO  MIX          ON • OFF
  LANG  MODE         M  • S
  SHUTTLE MODE     •AUTO  A
  N-S  AUDIO       STD •NICAM
  EURO AV          •L3  PAY-TV
  PREVIOUS  PAGE
PRESS [EXE]
```

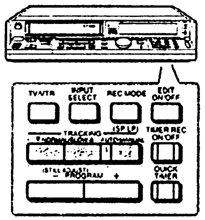
4 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "AUDIO MIX."

5 Select ON or OFF using ◀ or ▶ of the cursor keys.
ON: to make the AUDIO MONITOR button inoperative so that the sounds of the Hi-Fi video and normal audio tracks are always output.
OFF: to make the AUDIO MONITOR button operative so that you can select the sound to hear.

6 Press EXE to store the setting.
The TV screen returns to the original screen.

When you have finished the playback of a particular tape such as an audio inserted tape, reset the AUDIO MIX setting to OFF.





When the sound on the HI-FI audio track is not clear, adjust it with TRACKING NORMAL/SLOW (STILL ADJUST) ▼/▲ .
When the recording condition is poor, you can't adjust.

Removing Picture Distortion

Usually, the tracking control function removes picture distortion automatically. However, occasionally, streaks or "snow" may appear on the screen when you play a video tape. When this happens, you can adjust the tracking manually.

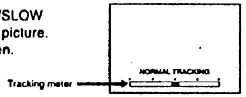
Automatic Tracking Adjustment

"AUTO TRACKING" flashes while the VCR is searching for the best tracking condition and lights steadily when it finds the best possible tracking. If the VCR cannot find the best tracking condition, adjust the tracking manually.

Manual Tracking Adjustment

1 Press DATA SCREEN to display the tape counter on screen.

2 Press ▼/▲ on the TRACKING NORMAL/SLOW (STILL/ADJUST) buttons to get the best picture.
The tracking meter appears on the screen.
The distortion should disappear as you press one of the two buttons.
The tracking meter does not appear when the NTSC ON PAL TV switch is set to ON.

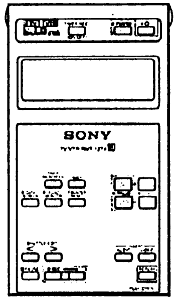


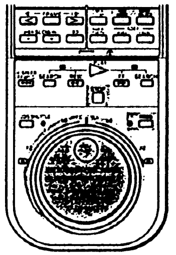
The Tracking Meter Display

When you cannot get a better picture even if you have made manual tracking, press AUTO/MANUAL to return automatic tracking adjustment mode.

To return to the tracking meter to its normal position
Simultaneously press ▼/▲ on the TRACKING NORMAL/SLOW (STILL/ADJUST) buttons.

Recording TV Programmes





If the tape is ejected when the REC buttons are pressed
The tab on the cassette is out. Use another cassette with its safety tab intact.

If you are using a Sony TV
You can use the remote control of this VCR to operate the TV. When doing this, slide the TV/VTR remote control selector at the top of the remote control to "TV." To operate the VCR, return the TV/VTR remote control selector to "VTR."

You can record TV programmes in one of three ways:
-While you are watching the programme (this page)
-While you are watching another programme (See page 21.)
-While you are not watching the TV at all (See page 21.)

Before you begin

- Make sure that the connections have been made correctly (see "Step 2 Connecting the VCR" on page 6.)
- Check that "TUNER" lights up in the VCR display panel.

Recording While Watching the TV Programme

1 Insert a cassette. (Its safety tab must be in place.)
The VCR turns on automatically (Auto power on).

2 Turn on the TV.

3 Press TV/VTR on the remote control several times until "VTR" appears in the VCR display panel. (If you have made only an aerial connection, turn to the video channel you set the VCR to in "Step 3 Tuning the VCR to Your TV" on page 7.)

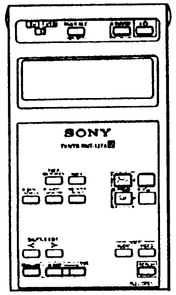
4 Select SP or LP with REC MODE (SP/LP).
In the LP mode, you can record twice as long as in the SP mode.

5 Press PROG+/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR to select the programme position.
You can also use the jog dial to select the programme position. To use this, press the PROG function button to light indicator beside the button. Turn the jog dial clockwise for higher numbered programme positions or counterclockwise for lower numbered programme positions.
The programme number will change in the VCR display panel and on the TV screen.

6 Press the two ●REC buttons on the remote control at the same time, or the REC button on the VCR.
The REC (recording) indication lights up in the VCR display panel.

To stop recording
Press ■STOP.

When the cassette reaches the end
The cassette rewinds to the beginning automatically and the power remains on.



Pausing

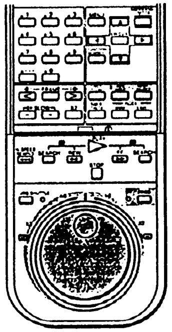
You can stop recording an unwanted scene and resume recording smoothly.

1. Press II PAUSE when an unwanted scene appears.
   Recording will stop and the VCR enters recording pause mode.
2. Press II PAUSE again at the desired point to release pause mode.
   Recording resumes from the point set in step 1.

When the recording pause mode lasts for approximately 5 minutes, the VCR enters stop mode.

Recording with the TV Off

Turn off the power of the TV or monitor.
There will be no interference with the recording.



Recording While Watching Another Programme

The recording procedure differs depending on the type of TV-VCR connection you have made.

1 Record the programme following the steps 1 to 6 on page 20.

2 Do one of the following depending on the type of connection your VCR has:

If you have made a EURO-AV connection:

1. Press TV/VTR until "VTR" disappears from the VCR display panel.
2. Select the programme you want to watch on the TV.

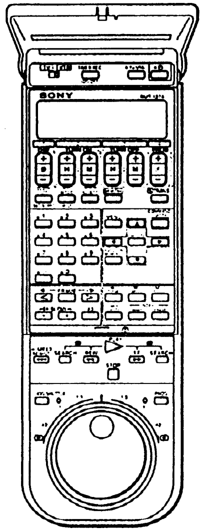
If you have made an aerial connection only:

Select the programme you want to watch on the TV.

If you have made a LINE OUT VIDEO/AUDIO connection:

1. Select the tuner input on the TV.
2. Select the programme you want to watch on the TV.

Timer-Activated Recording



You can use the following buttons during timer-recording

- TIMER REC (ON/OFF) to stop recording
- COUNTER RESET (See page 17)
- TV/VTR (See page 21)
- TIMER CHECK (See page 26)
- DATA SCREEN (See page 17)
- TIMER ON SCREEN (See page 25)

The timer recording function lets you preset your VCR to record up to eight programmes within a one-month period. Perform this procedure on the remote control and transmit the preset data to the VCR.

Before you begin

- Make sure that the time and date clock is set correctly (see "**Step 6 Setting the Clock**" on page 11.)
- Check to see that the cassette is long enough to record all the programmes.
- Make sure that the safety tab of the cassette has not been removed. If you insert a cassette without a safety tab and try to set the timer, a short beep sound will be heard repeatedly and the cassette automatically ejects from the VCR.

Setting the Timer

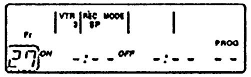
Example

Here is how to record a broadcast on programme position 8 from 20:00 to 20:50 on Friday, 27th November 1992, in SP mode.

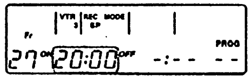
1 Open the flap of the remote control.
The remote control enters timer preset mode.

Note:
Never close the flap until you finish transmitting the programme data to the VCR.

2 Press D (DAY) until 27 appears.
The day of the week (Friday) is automatically set.

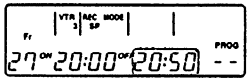


3 Press H under the TURN ON section until 20 appears.

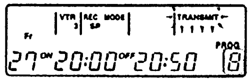


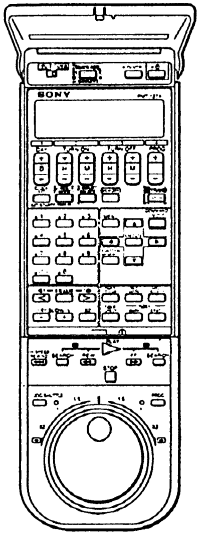
4 Press M under the TURN ON section until 00 appears.

5 Press H and M under the TURN OFF section until 20:50 appears.



6 Press PROG+/– until 8 appears.

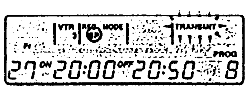




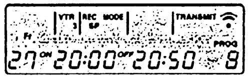
If power interruption occurs during timer recording
Recording will stop and your VCR will turn off. If power is restored within one hour, and it's before the recording end time, recording will start again from that point. If the interruption lasts for more than one hour, any presettings will be erased and you'll need to reset the time and date for your programmes. Note that the tape counter will return to "0H00M00S."

To record a satellite programme from a satellite tuner connected to EURO-AV (LINE 3) connector
Press INPUT SELECT to display "LINE L3" in the remote display. You need a commercially available timer to turn on/off the satellite tuner at the preset time. The programme position to be recorded must be preset on the satellite tuner.

7 Set the recording speed, SP or LP, with REC MODE (SP/LP).
The TRANSMIT indicator flashes to tell you that all of the items have been entered.



8 Point the remote control to the VCR and press TRANS. Press TRANS within five minutes after you have entered all the items.
A beep sound will tell you that the preset data have been transmitted to the VCR, and the VCR enters recording standby mode.
The TIMER REC indicator lights up in the VCR display panel and the contents of the timer setting you've just transmitted to the VCR also appears in the VCR display panel.
The PROGRAM LIST appears on the TV screen for a few seconds if the VCR is turned on.



To set another programme, repeat steps 2 to 8.

9 Close the flap of the remote control so that the present time appears on the remote display.
The VCR turns on automatically and starts recording at the preset time, then turns off after recording ends.

To stop timer-recording

To stop timer-recording while a programme is being recorded, press TIMER REC (ON/OFF).

To rewind the tape after timer recording is over

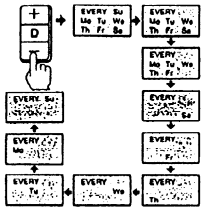
Use the TIMER REC-REW function (for details, see page 39).

To record video source from the EURO-AV (LINE1) connector, EURO-AV (LINE3) connector or LINE IN 2 AUDIO/VIDEO jacks

Press INPUT SELECT any time in steps 1 to 6 to change the indication from PROG– to LINE L1 (for the EURO-AV (LINE 1) connector), LINE L2 (for the LINE IN 2 AUDIO/VIDEO jacks), or LINE L3 (for the EURO-AV (LINE3) connector).

To record a TV programme and audio signals from equipment connected to the EURO-AV (LINE 1) connector or LINE IN 2 AUDIO simultaneously.

For selecting the audio input terminal, see item "SIMUL AUDIO IN" on page 38.
Set the desired programme position and press INPUT SELECT to indicate SIMUL in step 6.

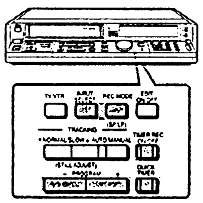


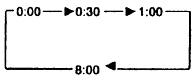
Daily/Weekly Recording

You can preset your VCR for daily or weekly recording.

Daily recording records the same programme every day of the week, while weekly recording records the same programme on the same day, every week.

In step 2 of the "Setting the Timer" section (page 22), press the –(minus)-side of the D button to change the indication in the remote display to one of the choices. (See the diagram at left.) When you set and transmit your preset data to the VCR, the corresponding indicator lights up in the VCR display panel.





If your cassette ends during quick-timer recording
Recording stops and the VCR turns off. The cassette will not rewind automatically.

If a power interruption occurs during quick-timer recording
Recording will stop and the VCR will turn off. If the interruption lasts less than one hour and the power is restored before the recording end time, recording will start again from the time the power is restored.

For the buttons you can use during quick-timer recording
See page 22.

Quick-Timer Recording

This function is convenient for recording programmes without going through the entire timer setting procedure. Note, however, that it provides only an approximate setting for the programme you wish to record.
If you're currently recording, skip to step 7.

1 Insert a cassette into your VCR.

2 Press INPUT SELECT to select TUNER.

3 Select the desired recording speed (SP or LP) by pressing REC MODE on the inside surface of the upper drop-down panel.

4 Press QUICK TIMER on the VCR.
If you insert a cassette with the safety tab removed, your VCR will eject the cassette.

5 Select the programme position you wish to record using PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR. The programme position can be changed while the programme position indicator is flashing (for about 30 seconds).

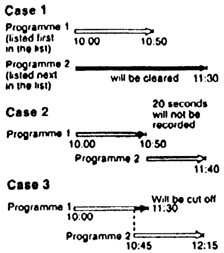
6 Press QUICK TIMER again to start recording.
Unless you press QUICK TIMER within 30 seconds, the power will be turned off.

7 Select the recording duration by pressing QUICK TIMER to change the duration indicator in the display window.
Each time you press QUICK TIMER, the recording duration increases by 30 minutes (up to 8 hours).
Once recording has finished, your VCR will turn off automatically.
During quick-timer recording, the recording time can be changed by pressing the QUICK TIMER button. During recording, the time displayed will count down in units of one minute.

To stop quick-timer recording

To stop quick-timer recording while a programme is being recorded, press TIMER REC (ON/OFF).

Overlapping Timer Recordings


Case 1
Programme 1 (listed first in the list)
10.00
10:50
Programme 2 (listed next in the list)
will be cleared
11:30
Case 2
20 seconds will not be recorded
Programme 1
10.00
10:50
Programme 2
11:40
Case 3
Will be cut off
Programme 1
11:30
10:00
Programme 2
10:45
12:15

If you have made a "mistake" when presetting multiple programmes, the VCR will interpret your settings as described in the following cases.

Case 1: If you preset two programmes to record at the same time...

The programme listed first on the PROGRAM LIST display has priority over the other programmes. The timer settings for lower priority programmes will be deleted from the PROGRAM LIST display when recording begins for the first programme.

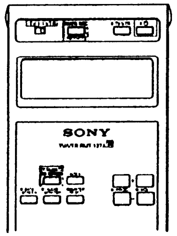
Case 2: If you set programme 2 to record at the same time you set programme 1 to finish recording...

The last 20 seconds of programme 1 will not be recorded.

Case 3: If you set programme 2 to record before programme 1has finished recording...

Programme 2 will begin recording before programme 1 has finished.

Checking the Timer Settings



Here's how to display your timer settings to confirm the programmes you wish to record.

1 Press TIMER REC (ON/OFF) to release timer recording standby mode.
The TIMER REC (recording) indicator turns off in the VCR display panel.

2 Press ⏻ to turn on the VCR.

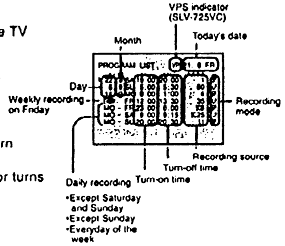
3 Press TV/VTR so that the VTR indicator lights up in the VCR display panel.

4 Turn on the TV.
If you have made only an aerial connection, turn to the video channel you set the VCR to in "Step 3 Tuning the VCR to Your TV" on page 7.

5 Press TIMER ON SCREEN.
The PROGRAM LIST appears on the TV screen for you to check.

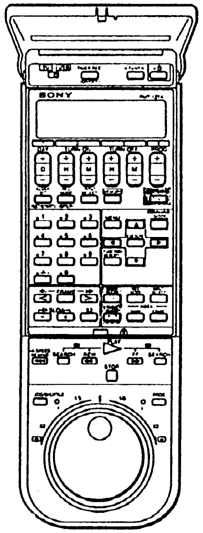
6 After you have checked the settings, press TIMER ON SCREEN again.
The original TV screen appears.

7 Press TIMER REC (ON/OFF) to return to timer recording standby mode.
The TIMER REC (recording) indicator turns on in the VCR display panel.


VPS indicator (SLV-725VC)
Month
Today's date
PROGRAM LIST
Day
Weekly recording on Friday
Recording mode
Recording source
Turn-off time
Turn-on time
Daily recording
•Except Saturday and Sunday
•Except Sunday
•Everyday of the week

Notes

- If you set a programme to record only one time, that setting is erased from the PROGRAM LIST display when the recording has finished.
- To check the timer settings during timer recording, press TIMER ON SCREEN.



Changing or Cancelling the Timer Settings

Here's how to change or cancel any timer settings on the PROGRAM LIST display.

1 Display the PROGRAM LIST display on the TV screen.
Follow steps 1 through 5 of the "Checking the Timer Settings" (page 25) section.

2 Press TIMER CHECK to display the cursor (▶).

3 Press TIMER CHECK to move the cursor (▶) to the setting you want to change or cancel.

4 **To change the setting**
Re-enter all the items and transmit it to the VCR. (See "Setting the Timer" on page 22.)
The VCR returns to timer recording standby.

To cancel the setting
Press TIMER CLEAR.

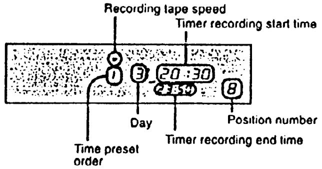
To change or cancel timer settings without using the PROGRAM LIST display

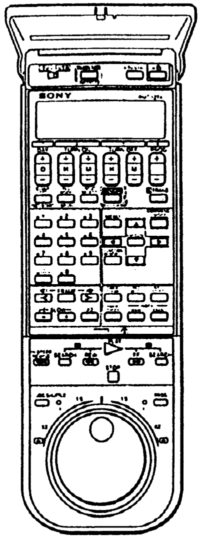
Using this method, you can change or cancel the timer settings without releasing the timer recording standby mode.

1 Press TIMER CHECK repeatedly until the programme you want to change or cancel appears in the VCR display panel.

2 **To change the timer setting,** change the settings and press TRANS to transmit it to the VCR.

To cancel the setting, press TIMER CLEAR.
The timer setting of the selected programme is cancelled.


Recording tape speed
Timer recording start time
1
3
20:30
8
Day
Position number
Timer recording end time
Time preset order



Using the VCR Before Timer Recording Starts

1 Press TIMER REC (ON/OFF).
The TIMER REC (recording) indicator in the VCR display panel turns off and the VCR leaves the timer recording standby mode.

2 Press ⏻.
The VCR is ready to use.
A short beep sound will be heard and the message will appear on the TV screen five minutes prior to a preset timer start time.

3 After using the VCR, press TIMER REC (ON/OFF).
The VCR returns to the timer recording standby mode.

Storing the Timer Settings

Once a one-time programme has been recorded, the setting is cancelled, and if you wish to record at that time again, you need to reenter the settings. Daily /Weekly recordings are of course kept in memory and repeated until you change them. However, if you store the timer settings into the remote control's memory, you can recall the timer settings whenever you want. You can store up to four settings into the remote control's memory. Each setting is stored into one of four positions (A, B,C and D). Moreover, the recording date shifts automatically to the next week after the recording is completed. Thus, you can have easy access to the most frequently used settings, especially your favourite weekly programme.

1 Press MEMORY so that MEMORY A appears in the remote display.

2 Set all items for timer-activated recording.
(See "Setting the Timer" on pages 22 and 23.)
The setting is stored in MEMORY A.

3 If you want to store other settings, press MEMORY several times until the positions you want to store settings (B, C, or D) appears, then repeat step 2.

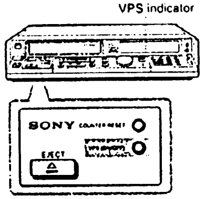
The settings are kept in memory even if you close the flap of the remote control.

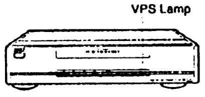
Recalling and re-entering the settings

1 Press MEMORY several times until the indication (A, B, C or D) you want to recall/change appears.

2 Make whatever changes you want.

3 Press TRANS.
The VCR enters timer-activated recording standby mode.





Notes on VPS Recording
- If recording times overlap due to a VPS time shift, the programme that was broadcast first has priority. The second programme will begin to record only when the first programme has finished.
- The VPS button is effective only when TIMER REC does not light up in the VCR display panel.
- If the VPS cannot receive a VPS signal because the signal is too weak or because the station failed to transmit VPS signals, the VCR will record the programme without the VPS function regardless of the VPS indication in the VCR display panel.

VPS Recording (SLV-725VC models only)

The German broadcasting system transmits VPS (Video Programme System) signals with its TV programmes. These signals assure you that your timer recordings are made regardless of broadcast delays, early starts, or broadcast interruptions. For example, if an urgent news bulletin interrupts a regular programme, recording will stop. As soon as the interrupted programme resumes, recording starts again.

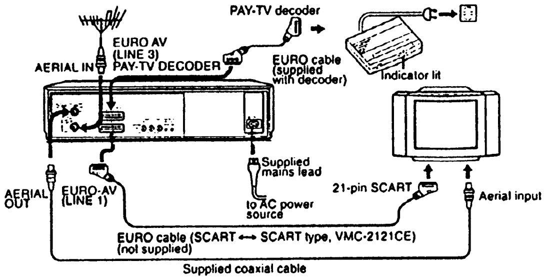
1 Make sure the "TIMER REC " indicator is not lit in the VCR display panel.

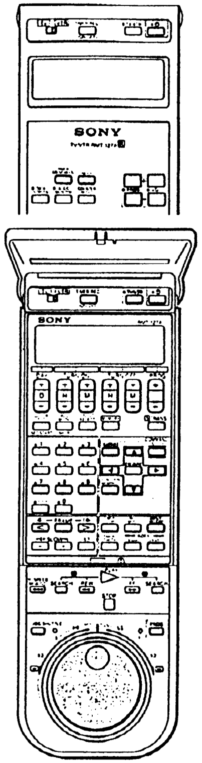
2 Before setting the timer to record, press VPS (ON/OFF) on the inside surface of the upper drop-down panel so that the "VPS" indicator lights in the VCR display panel.

3 Set the timer following the steps of "Timer-Activated Recording" (page 22).
The VCR will enter standby mode for VPS recording well before the turn-on time so as to be ready if there is a change in the start time.
The VPS lamp on the front panel lights up when the signal with VPS label is received by the VCR. The VPS indicator in the VCR display panel lights up when you press the VPS (ON/OFF) button on the inside surface of the upper drop-down panel.

PAY-TV Programme Recording (SLV-725VC models only)

You can watch or record a PAY-TV programme if you connect the decoder (not supplied) to the VCR. (See the connection below.)





Notes
- So long as the decoder is connected to the VCR, make sure to keep the mains lead of the decoder connected to an AC outlet.
- If you want to store normal television programmes, make sure that the PAY-TV in the TUNER PRESET menu is set to "OFF."

Presetting PAY-TV programme Broadcasts

Before watching or recording a PAY-TV programme, you should preset PAY-TV programme broadcasts to store them into the VCR.

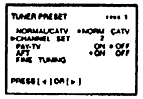
1 Turn on the VCR.

2 Press INPUT SELECT so that "TUNER" appears in the front panel display.

3 Turn on the TV.

4 Press TV/VTR on the remote control several times until "VTR" appears in the VCR display panel.

5 Call up the TUNER PRESET menu. (See "Step 5 Tuning the VCR to the Required Stations" on page 9.)

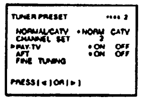


```
TUNER PRESET            PAGE 1

 NORMAL/CATV     •NORM  CATV
▶CHANNEL SET          2
 PAY-TV            ON •OFF
 AFT              •ON   OFF
 FINE TUNING

PRESS[◀]OR[▶]
```

6 Press PROG +/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR to select the programme position.
You can also use the jog dial to select the programme position. To use this, press the PROG function button to light the indicator beside the button.
Turn the jog dial clockwise for higher numbered programme positions or counterclockwise for lower numbered programme positions.
The programme number will change in the VCR display panel and on the TV screen.

7 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "CHANNEL SET" and tune in PAY-TV channels.

8 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "PAY-TV" and select "ON." Then press EXE.



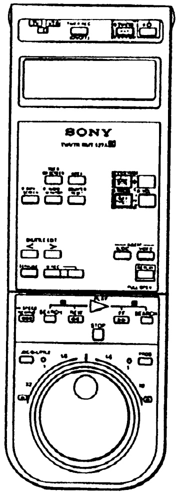
```
TUNER PRESET            PAGE 2

 NORMAL/CATV     •NORM  CATV
 CHANNEL SET          2
▶PAY-TV           •ON   OFF
 AFT              •ON   OFF
 FINE TUNING

PRESS[◀]OR[▶]
```

Important

Once you have preset a single TV programme with the PAY-TV setting ON, the upper EURO-AV connector on the rear of the VCR can't be used as an external connector (LINE 3), but can only be used as the connector which is connected with the PAY-TV decoder. Because of this, "LINE 3" will not appear even if you press the INPUT SELECT button. The input mode indication will then change as:

$$\begin{tikzcd} \text{TUNER} \arrow[r] & \text{SIMUL} \arrow[r] & \text{LINE L1} \arrow[dl] \\ & \text{LINE L2} \arrow[ul] & \end{tikzcd}$$

If all the TV programmes are preset again with the PAY-TV setting OFF, the upper EURO-AV connector can be used as a LINE 3 input terminal and LINE 3 becomes effective when you connect any other equipment except the PAY-TV decoder to this connector.



Notes
- If the VCR records a PAY-TV programme which has been preset in the VCR's memory, this PAY-TV programme is not decoded on your TV even if you tune in this programme on your TV.
- You cannot use the subtitle superimposing function unless the 21-pin EURO-AV cables which are compatible with the RGB signals, are used for both the decoder-VCR and VCR-TV connections.

Recording a PAY-TV programme

Turn on the power of the decoder first.
For the steps other than described below, refer to "Recording TV Programmes" on page 20.

To record a PAY-TV programme while watching it
Select a PAY-TV programme using PROG +/– on the flap of the remote control.

To watch a normal TV programme while recording a PAY-TV programme
Press TV/VTR so that "VTR" goes off, then select a normal television programme you want to watch on the TV.

To watch a PAY-TV programme while recording a normal television programme
Press TV/VTR to turn off "VTR", then select a PAY-TV programme you want to watch on the TV.

The following table will show you which indicators are lit during the watching and recording of a PAY-TV programme.

VTR indicator	To watch	To record
Lit	PAY-TV programme	PAY-TV programme
Unlit	Normal television	PAY-TV programme
Unlit	PAY-TV programme	Normal television

Recording a PAY-TV programme using the timer-activated recording function

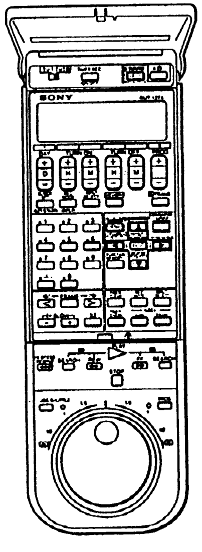
Select a PAY-TV programme in step 6 of "Setting the Timer" on page 22. The other steps are the same as the normal timer-activated recording. The PAY-TV decoder must be kept turned on.

Watching a PAY-TV programme with the VCR turned off

Select a PAY-TV programme you want to watch on the TV.

Subtitle superimposing

Put the subtitle ON/OFF switch of the decoder to ON. Note that you cannot record the subtitle on the VCR.



Temporarily using the EURO-AV (LINE 3) PAY-TV DECODER Connector as LINE 3 Input Terminal

Once you have done PAY-TV presetting, the upper EURO-AV connector on the rear of the VCR becomes the connector exclusively for a PAY-TV decoder. If you want to temporarily use this connector as a LINE 3 input connector for dubbing the tape, do the following.

1 Turn on the VCR and TV.

2 Press TV/VTR on the remote control several times until "VTR" appears in the VCR display panel.

3 Press MENU.
The main MENU appears.

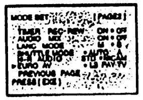
4 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "MODE SET."

5 Press EXE.
The MODE SET menu appears.
If the MODE SET [PAGE 1] menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "NEXT PAGE", then press EXE.
The MODE SET [PAGE 2] menu appears.

6 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "EURO AV."

7 Select "L3" using ◀ or ▶ of the cursor keys.

8 Press EXE.



Now you can use the upper EURO-AV connector as LINE 3 input terminal (if you connect a PAY-TV decoder to this connector, a PAY-TV programme is not decoded. So, make sure to return the EURO AV setting to PAY-TV to watch the PAY-TV programmes.)

To use the upper EURO-AV connector exclusively for the PAY-TV decoder again, perform steps 1 to 6, select "PAY-TV," then press EXE.
You don't need to preset PAY-TV programmes again to watch and record. The programmes you have preset in the VCR's memory as PAY-TV programmes will still be effective.

Line-through

With the line-through function, you can watch a picture coming from a source connected to your VCR through the EURO-AV (LINE 3) connector even though your VCR is turned off.
For this function to work, you need the following conditions:

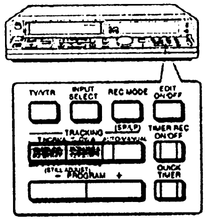
- The source equipment should be connected to the VCR's upper 21-pin EURO-AV (LINE 3) connector with a 21-pin EURO-AV cable.
- The source equipment needs to have a TV/VTR, TV/DISC, TV/SAT or equivalent selector switch, which you set to the non-TV position. (The VTR indicator should not be lit in the VCR display panel.)
- The VCR's lower EURO-AV (LINE 1) connector and your TV are connected with a 21-pin EURO-AV cable.

To watch a TV programme rather than the picture from the source connected to the VCR, simply set the TV/VTR switch of the connected equipment (which may be called TV/DISC, TV/SAT, or an equivalent) to the "TV" position.

Notes

- Depending on the equipment you connect to the EURO-AV (LINE 3) connector, the selector equivalent to the TV/.VTR switching selector is not always set to the "TV" position. In this case you always have the output of this equipment on the TV. When you don't need to watch, turn off the power of this equipment.
- The line-through function does not support the RGB signals. Accordingly, if the connected equipment outputs superimpose signals, you can't watch them.

Variable Speed Playback



The following section explains the advanced playback functions available on your VCR. No sound is heard during these operations.

Replay

During playback and playback pause, press REPLAY.
The VCR replays in slow-motion the last two seconds of the scene just played back. After replay is over, the VCR resumes normal playback (or playback pause).
If you continue to press REPLAY, the tape will rewind as long as the button is held down. However, slow playback continues for about more than one minute, the VCR resumes normal playback automatically.

Still Picture

During playback, press II PAUSE to hold the picture in one place.

To resume normal playback, press either ▶ PLAY or II PAUSE.

If you leave your VCR in pause mode, normal playback resumes after approximately 5 minutes.

To reduce the bands on the top or bottom of the screen in still mode
Change to the slow motion play mode and adjust the picture with TRACKING NORMAL/SLOW (STILL ADJUST) ▼/▲.
To reduce the picture shaking during still mode
Adjust the picture with TRACKING NORMAL/SLOW (STILL ADJUST) ▼/▲.

Picture Search (During Playback)

Press ▶▶ FF or ◀◀ REW during playback.

When you release the button, normal playback will resume.

Locked Picture Search

This feature works only from the remote control.

Press ⊖ or ⊖ SEARCH on the remote control in the playback mode.
For the reverse direction, press the left ⊖ SEARCH button. For the forward direction, press the right ⊖ SEARCH button.

To resume normal playback, press ▶ PLAY.

Frame-by-Frame Picture

This feature works only from the remote control.

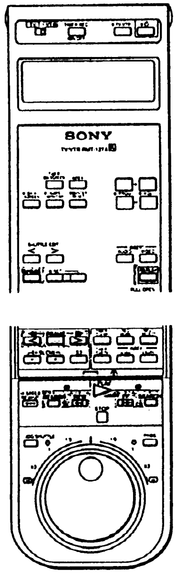
During playback pause, press II▶ on the remote control to advance the picture one frame or ◀II to go back one frame.

To resume normal playback, press ▶ PLAY.

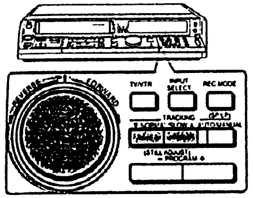
Reversing the Normal Playback

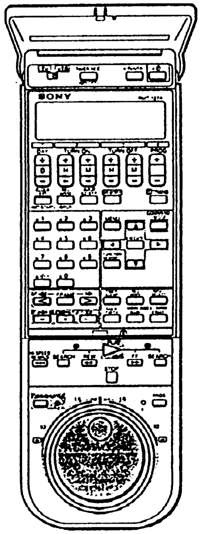
This feature works only from the remote control.

Press ◀II (<) during normal playback.



Note
During variable speed playback, "streaks" or "snow" may appear on the picture, the picture may flicker and the colour may not be reproduced properly depending on the speed or the direction.





Slow Motion Playback

This feature works only from the remote control.

Press I► SLOW +/– to start slow motion playback during playback.

You can change the playback speed of slow motion playback from 1/5 to 1/30 times the normal speed.
Press I► SLOW + to increase the playback speed.
Press I► SLOW – to decrease the playback speed.

To resume normal playback, press ► PLAY.

To play back in the reverse direction
Press ◄II (<).

To resume normal playback, press ► PLAY.

To reduce streaks or "snow" during slow motion playback
Adjust the picture with TRACKING NORMAL/SLOW (STILL ADJUST) ▼/▲ on the inside surface of the upper drop-down panel of the VCR.

X2 Double Speed Playback

This feature works only from the remote control.

Press X2 on the remote control.

To playback in the reverse direction
Press ◄II (<).

To resume normal playback, press ► PLAY.

JOG/SHUTTLE Operation

Using the JOG dial and SHUTTLE ring on the VCR or the remote control during playback or playback pause, you can play back cassettes at a variety of speeds, in either forward or reverse direction.

Using the SHUTTLE ring

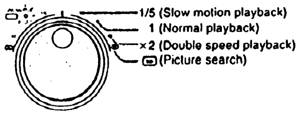
1* Press the JOG/SHUTTLE function button.
The indicator beside the button lights up.
2 Turn the ring and hold it.
Playback speed is selected according to the turning angle as illustrated. The same speeds are available in the reverse direction.

Using the JOG dial

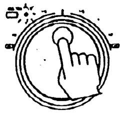
1* Press JOG/SHUTTLE function button.
The indicator beside the button lights up.
2 Turn the dial.
Playback speed varies according to the speed at which you turn the dial (frame-by-frame, slow, x1). The same speeds are available in the reverse direction.

Note
It takes about two or three seconds to reverse the direction in slow-motion playback or frame-by-frame picture.

SHUTTLE



JOG



* remote control only

Releasing JOG/SHUTTLE produces a still picture.
To resume normal playback, press ► PLAY.

Using the On-Screen Menus

When you make a specific setting or select a series of tape operations while using your VCR, you sometimes need to open the MENU screen. The following table shows you when and why you need to select the menu options.

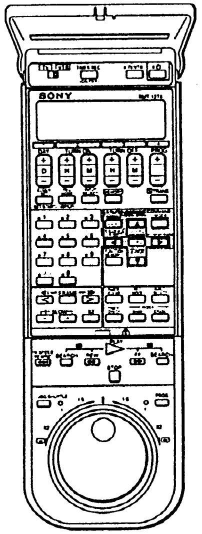
AUTO MENU	Select this item to perform certain operations in sequence. See page 35 for details.
AUTO REPEAT	Select this item to repeat certain portions of a tape. See page 37.
MODE SET	Select this item to customize your VCR. See page 38.
TUNER PRESET	See page 9.
LANGUAGE	Select this item to display the menu in your language (ENGLISH, DEUTSCH, FRANÇAIS, ITALIANO, ESPAÑOL, NEDERLANDS) . See page 12.
FUNCTION MEMORY	Select this item to keep a certain operation in memory. See page 36.
DEMON-STRATION	Select this item to get an overview of the on-screen menus. While the VCR is showing a sequence of the DEMONSTRATION menu, you can stop at the desired screen by pressing EXE. Press EXE again to start again. To quit the demonstration, press any button except for EXE.

Before you begin

- Use ▲ or ▼ to move the cursor (►).
- Use ◄ or ► to select items.
- To quit setting in the middle of the procedure, press MENU.

Assigning a Desired Operation-AUTO MENU/ FUNCTION MEMORY

You can get the VCR to perform certain functions in sequence automatically. The AUTO MENU guides you to your desired sequence of operations. You can choose from the eight AUTO MENU choices. Moreover, one of the AUTO MENU choices you selected can be assigned to the FUNCTION MEMORY button on the remote control.

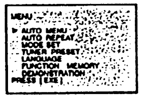


AUTO MENU Setting

1 Press MENU.
The main MENU appears.

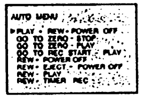
2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to AUTO MENU.

3 Press EXE.
The display changes to the "AUTO MENU" display.


MENU
▶ AUTO MENU
AUTO REPEAT
MODE SET
TUNER PRESET
LANGUAGE
FUNCTION MEMORY
DEMONSTRATION
PRESS [EXE]

4 Press ▲ or ▼ of the cursor keys to select the menu choice you want. For menu choices, see below.

5 Press EXE to return to the original screen.
The selected operation will begin. The menu choice you selected will be superimposed on the TV screen for a few seconds.
The AUTO indicator will light up in the VCR display panel during AUTO MENU operation.

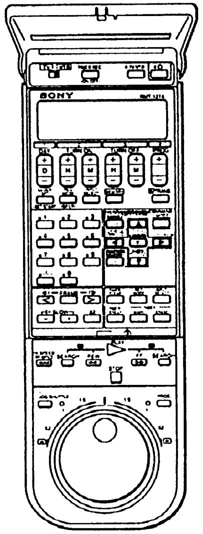

AUTO MENU
▶ PLAY · REW · POWER OFF
GO TO ZERO · STOP
GO TO ZERO · PLAY
GO TO REC START · PLAY
REW · POWER OFF
REW · EJECT · POWER OFF
REW · PLAY
REW · TIMER REC

Menu choices

- PLAY-REW-POWER OFF
  Plays back the tape, rewinds the tape when it reaches the end, and turns off the power.
- GO TO ZERO-STOP
  Searches for the counter zero point and stops.
- GO TO ZERO-PLAY
  Searches for the counter zero point and starts playback.
- GO TO REC START -PLAY
  Searches for the recording start point and starts playback.
- REW-POWER OFF
  Rewinds the tape to the beginning and turns off the power.
- REW-EJECT-POWER OFF
  Rewinds the tape to the beginning, ejects the cassette, and turns off the power.
- REW-PLAY
  Rewinds the tape to the beginning and starts playback.
- REW-TIMER REC
  Rewinds the tape to the beginning and puts the VCR in timer recording standby mode when the timer is preset.

Note on AUTO MENU operation
AUTO MENU cannot be operated if there is no cassette installed or if the tape is being transported. A short beep alerts you if the AUTO MENU is not operable.

Note on "GO TO REC START-PLAY"
The recording start point data will be erased from the memory after the following operations, and "GO TO REC START-PLAY" will not be operable.
- When COUNTER RESET is pressed.
- When cassette is ejected and re-inserted.
- When HI-SPEED REWIND is pressed.



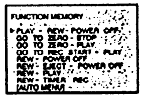
FUNCTION MEMORY

1 Press MENU.
The main MENU appears.

2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to FUNCTION MEMORY.

3 Press EXE.
The FUNCTION MEMORY menu appears.

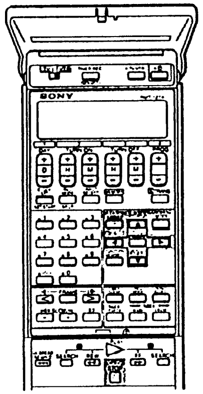
4 Move the cursor (▶) to the menu choice you want and press EXE.


FUNCTION MEMORY
▶ PLAY - REW - POWER OFF
GO TO ZERO - STOP
GO TO ZERO - PLAY
GO TO REC START - PLAY
REW - POWER OFF
REW - EJECT - POWER OFF
REW - PLAY
REW - TIMER REC
[AUTO MENU]

If you have selected [AUTO MENU], you can directly go to the AUTO MENU simply by pressing FUNCTION MEMORY, without displaying the main MENU. This is a short cut to the AUTO MENU.

For the menu choices, see the previous page.
The menu choice you selected will be activated every time you press FUNCTION MEMORY when the VCR is in stop mode.

Repeating Playback Automatically —AUTO REPEAT



Notes on AUTO REPEAT operation

- If you press any tape operation button during repeat playback, AUTO REPEAT will be released.
- AUTO REPEAT cannot be operated if there is no cassette installed or if the VCR is in modes other than stop mode. A short beep alerts you if the AUTO REPEAT is not operable.

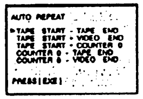
Note on "VIDEO END"
The VCR normally detects a blank of about 10 seconds on the tape as "VIDEO END."
However, for about 30 seconds from the beginning of the tape, the VCR does not do this.

AUTO REPEAT will not work correctly in the following cases

- When there is a blank of more than 10 seconds in the assigned repeat portion (more than 40 seconds at the beginning).
- When there is a blank of less than 10 seconds after the recorded portion to be played back repeatedly.
- When the tape is recorded to its end. (Select the menu choice including "TAPE END.")

You can make the VCR repeat playback of a certain portion of the tape automatically.

1 Press MENU while the VCR is in the stop mode.
The main MENU appears.



```
AUTO REPEAT

▶TAPE START - TAPE END
 TAPE START - VIDEO END
 TAPE START - COUNTER 0
 COUNTER 0 - TAPE END
 COUNTER 0 - VIDEO END

PRESS[EXE]
```

2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to AUTO REPEAT and press EXE.
The AUTO REPEAT menu appears.

3 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to the menu choice you want and press EXE.
The VCR will rewind or advance the tape rapidly to the start point of the selected repeat portion and start playback. Playback of that portion will be repeated five times and then the VCR will rewind the tape to the start point. The AUTO indicator will light in the VCR display panel during AUTO REPEAT operation.

To stop playback

Press ■ STOP on the VCR or on the remote control.

Menu choices

■ **TAPE START-TAPE END**
Repeats playback from the beginning to the end of the tape.

■ **TAPE START-VIDEO END**
Repeats playback from the beginning of the tape to the end of the recorded portion.

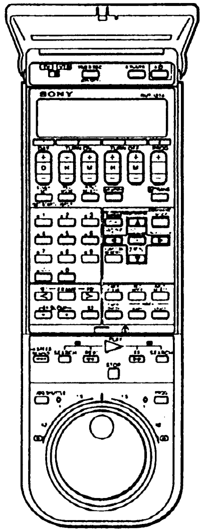
■ **TAPE START-COUNTER 0***
Repeats playback from the beginning of the tape to the counter zero point.

■ **COUNTER 0*-TAPE END**
Repeats playback from the counter zero point to the end of the tape.

■ **COUNTER 0*-VIDEO END**
Repeats playback from the counter zero point to the end of the record portion of the tape.

Before activating AUTO REPEAT, you must press COUNTER RESET on the VCR or on the remote control to set the tape counter to 0H00M00S at the desired point.

Customizing Your VCR—MODE SET



Important
Do not set RF MODULATOR to "OFF" when you have made the VCR-TV connection via the AERIAL IN socket only.
If the RF MODULATOR is set to "OFF", no picture will appear on the TV screen. In this case, press the CL button inside the lower drop-down panel with a pointed object. Since this will clear all stored information (e.g., the clock and any preset information), you must set them once again.

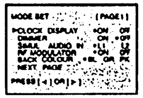
Note
The position of the cursor remains the same as long as the mains lead is connected.

You can customize your VCR using the MODE SET menu.

1 Press MENU.
The main MENU appears.

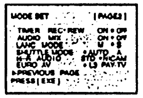
2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to MODE SET.

3 Press EXE.
The MODE SET menu appears.
If the MODE SET [PAGE 1] menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "NEXT PAGE", then press EXE.
The MODE SET [PAGE 2] menu appears.



```
MODE SET            [PAGE1]

▶CLOCK DISPLAY    •ON   OFF
 DIMMER            ON  •OFF
 SIMUL AUDIO IN   •L1   L2
 RF MODULATOR     •ON   OFF
 BACK COLOUR  •BL  GR   PK
 NEXT PAGE

PRESS[◀]OR[▶]
```

[PAGE 1] menu



```
MODE SET            [PAGE2]

 TIMER REC·REW    ON •OFF
 AUDIO MIX        ON •OFF
 LANC MODE         M •S
 SHUTTLE MODE  •AUTO  A
 HI-FI AUDIO    STD •NICAM
 EURO AV        •L3 PAY-TV
▶PREVIOUS PAGE
PRESS[EXE]
```

[PAGE 2] menu

4 Press ▲ or ▼ of the cursor keys to move the cursor to the menu choice you want, then press ◀ or ▶ of the cursor keys to move the dot (•) to select the item.
For the menu choices, see below.

5 Press EXE to store the setting.

Menu choices

■ **CLOCK DISPLAY**
Select "ON" to display the current date and time in the data screen, and select "OFF" to turn off the current date and time in the data screen.

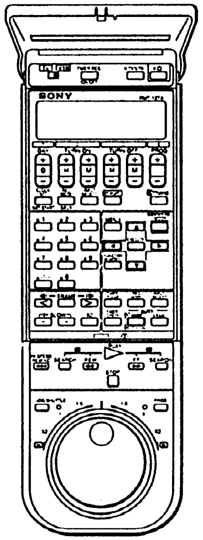
■ **DIMMER**
Select "ON" to make the display window dimmer and select "OFF" to make the display window brighter.

■ **SIMUL AUDIO IN**
Select "L1" to select the audio source from the LINE IN 1 connector during simul recording and select "L2" to select the audio source from the LINE IN 2 jacks during simul recording.

■ **RF MODULATOR**
Select "ON" if you have made the VCR-TV connection via the aerial socket only.
Select "OFF" if you have made the VCR-TV connection via the EURO-AV connector.
If interference occurs when you use the aerial socket, make the EURO-AV connection and set the RF MODULATOR to "OFF."

- **BACK COLOUR**
  Select the background colour you want : BL (blue), GR (green) or PK (pink).
- **TIMER REC-REW**
  Select "ON" to automatically rewind the tape after timer recording is over and select "OFF" to cancel this setting.
- **AUDIO MIX**
  Select "ON" to make the AUDIO MONITOR button inoperative so that the sounds of the hi-fi video and normal audio tracks are always output and select "OFF" to make the AUDIO MONITOR button operative so that you can select the sound to hear (for details, see page 45).
- **LANC MODE**
  Select "M" to control the other VCR using the synchronized editing function of this VCR and select "S" in any other cases (for details, see page 56).
- **SHUTTLE MODE**
  Normally set to "AUTO." The VCR detects automatically whether the other VCR has a reverse slow-motion playback function or not. If the other VCR doesn't perform tape movement as you operated, select "A."
  When you select "A", the tape will come to move only in the forward direction, and the JOG dial doesn't work (for details, see page 56).
- **HI-FI AUDIO (SLV-725UB and SLV-725NC models only)**
  Select "NICAM" to record a NICAM broadcast on a Hi-Fi audio track and select "STD" to record only standard sound on a Hi-Fi audio track (for details see page 44).
- **EURO AV (SLV-725VC models only)**
  Select "PAY-TV" to use the EURO-AV (LINE 3) PAY -TV DECODER connector to connect a PAY-TV decoder only after the PAY-TV presetting has been done. Select "L3" to use this connector as a LINE 3 connector temporarily (for details, see page 31).

Index Function



You can find specific scenes easily using the markings (index points) recorded on a cassette. This function is called the Index Function.
You can mark an index anywhere on a tape, so that you can easily find the specific point later on. Index works as a divider between scenes, and is not numbered. So, when you specify the index mark later, you have to specify the relative position from the current position. (The first index, the second index....from the current position.)
You can mark and erase index signals during playback, but while recording, you cannot erase them.

Marking Index Signals

Where you mark an index, the INDEX indicator flashes in the VCR display panel and the INDEX MARK indicator appears on your TV screen.

Automatic Index Mark

An index signal is automatically recorded at the beginning of a scene when you start recording.

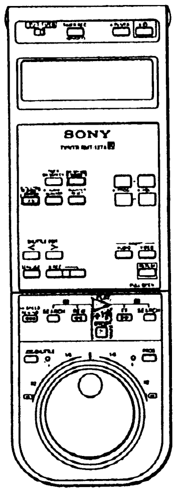
Manual Index Mark

When recording or playing a cassette, you can manually mark an index signal by pressing INDEX MARK.

When you mark an index signal during playback, the recorded sound may be interrupted but the audio signal will not be erased.

Notes on marking indexes

- Leave an interval of at least 2 minutes between indexes so that the VCR can detect the signals correctly.
- You cannot mark an index signal in the following cases:
  - On a cassette whose safety tab has been removed
  - On an unrecorded portion of a tape
  - Immediately before a point on the cassette where the tape speed (SP or LP) changes.



Playing Back from the Index Point—Index Scan

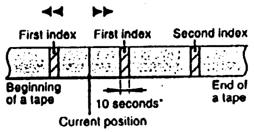
Here's how to find and play a programme you've marked with an index signal.

1 Insert an indexed cassette into your VCR.

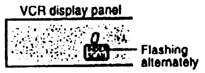
2 Press DATA SCREEN to display the data screen.

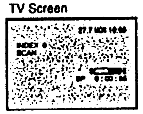
3 Press INDEX once.
The INDEX and SCAN indicators flash alternately in the VCR display panel and the INDEX SCAN indicator appears on the TV screen.

4 Press ◀◀ to find the previous programme or ▶▶ to find the next programme.
The index scan locates the next index signal and plays about 10 seconds of tape prior to the signal (10-second preview). The VCR then rewinds or advances to the next index signal.
Every time the VCR finds an index signal, 10-second preview begins.


◀◀
▶▶
First index
First index
Second index
Beginning of a tape
10 seconds*
End of a tape
Current position

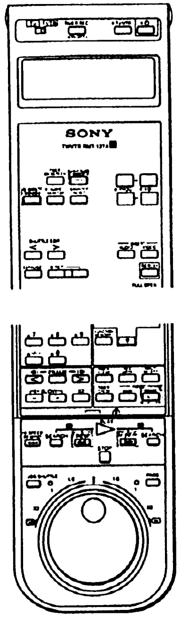
* When the cassette speed is SP.


VCR display panel
Flashing alternately


TV Screen
27.7 MON 16:00
INDEX SCAN
SP 0:00:56

5 When you find the programme you want, press ▶ PLAY during the 10-second preview. Playback starts from that point.

To stop index scan underway
Press ▶ PLAY or ■ STOP.



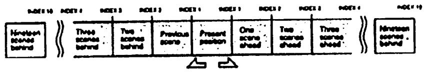
Note
You cannot erase an index signal at the beginning of the tape.

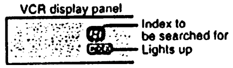
Locating an index— Index Search

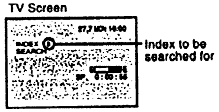
Locate an index by indicating how many index signals ahead or behind the scene is from the tape's current position. You can specify up to the 19th index point either ahead or behind the current position.

1 Press DATA SCREEN to display the data screen.

2 Press INDEX until the index number you want appears.


Nineteen scenes behind
Three scenes behind
Two scenes behind
Previous scene
Present position
One scene ahead
Two scenes ahead
Three scenes ahead
Nineteen scenes behind


VCR display panel
Index to be searched for
Lights up


TV Screen
27.7 MON 16:00
INDEX SEARCH
SP 0:00:56
Index to be searched for

3 Press ▶▶ FF to find an upcoming index signal or ◀◀ REW to find a prior index signal.
The cassette advances or rewinds to find the signal.
Each time an index signal is detected, the index number decreases.
When the index number reaches 0, it means you've located the specified scene and your VCR will begin to play.

Erasing Index Signals

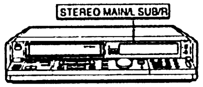
To remove any unwanted index signals, follow these steps:

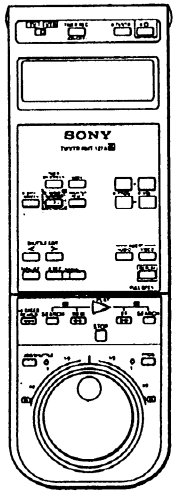
1 Press INDEX once during playback or stop mode.

2 Press ▶▶ FF to find the next scene or ◀◀ REW to find the previous scene. Each time an index is detected, the VCR plays back the indexed scene for approximately 10 seconds. It then rewinds or advances to the next index signal. This 10 second preview lets you decide whether you've located the index mark you want to erase.

3 Press INDEX ERASE during 10 seconds preview.
"INDEX ERASE" is displayed on the TV screen. The VCR automatically rewinds the tape to a position before that index, and erase the index . After one index is erased, the next index is located.

Recording Stereo/Bilingual Programmes

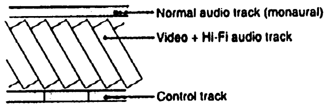




SLV-725/725VC/725NC Models

The SLV-725/725VC/725NC can receive and record stereo/bilingual programmes based on the "Zweiton" system adopted in Germany. Recording of the Zweiton system programmes is automatically done. A stereo or bilingual programme is recorded on the Hi-Fi audio track and normal audio track as shown below.

Hi-Fi recording pattern on a tape



Where the sound is recorded

Stereo programme
When a stereo programme is received, "STEREO" appears in the VCR display panel and the sound is recorded as follows:
Left channel: on the left channel of the Hi-Fi audio track
Right channel: on the right channel of the Hi-Fi audio track
Mixed of the left and right channels (monaural): on the normal audio track

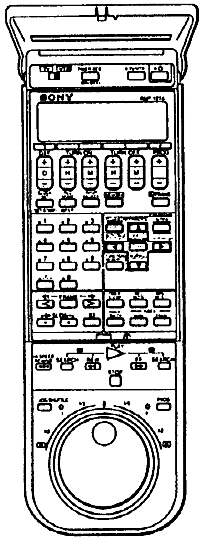
Bilingual programme
When a bilingual programme is received, "MAIN/L" appears in the VCR display panel and the sound is recorded as follows.
Main: on the left channel of the Hi-Fi audio track and on the normal audio track
Sub: on the right channel of the Hi-Fi audio track

How to select the sound you hear

Stereo programme
The AUDIO MONITOR button does not function for the stereo programmes of the Zweiton system.

Bilingual programme
When the VCR receives a bilingual programme, "MAIN/L" appears in the VCR display panel and you can select the sound to hear.
Press AUDIO MONITOR several times until you can hear the sound you want. With each press, the sound is cyclically changed in the following order.

Display	Sound heard
MAIN/L	Main sound
SUB/R	Sub sound
MAIN/L SUB/R	Main sound on the left channel Sub sound on the right channel



SLV-725UB/725NC Models

The SLV-725UB/725NC can receive and record stereo/bilingual programmes based on the "NICAM" system adopted in the United Kingdom and Nordic countries. NICAM broadcasting has two-channel digital sound called NICAM L and R channels in addition to the standard sound. The NICAM L and R are assigned to the stereo left and right channels or the main and sub sounds of a bilingual programme. The standard sound of most NICAM broadcasts is the mixed sound of the left and right channels for a stereo programme, and the main sound for a bilingual programme.

Recording NICAM broadcasts

You need to select "NICAM" of "Hi-Fi AUDIO" in the MODE SET [PAGE 2] menu.

1 Before recording a NICAM broadcast, press MENU.
The main MENU appears.

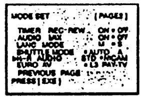
2 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to MODE SET.

3 Press EXE.
The MODE SET menu appears.
If the MODE SET [PAGE 1] menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "NEXT PAGE", then press EXE.

4 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to Hi-Fi AUDIO.

5 Select NICAM using ◀ or ▶ of the cursor keys.

6 Press EXE to store the setting.



```
MODE SET                 [PAGE2]
  TIMER  REC-REW       ON • OFF
  AUDIO  MIX           ON • OFF
  LANG  MODE           M  • S
  SHUTTLE MODE     • AUTO  A
▶Hi-Fi AUDIO         STD •NICAM
  EURO AV          • L3 PAY-TV
  PREVIOUS  PAGE
PRESS [EXE]
```

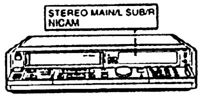
With NICAM setting, NICAM broadcasts will be recorded as shown in the following table.

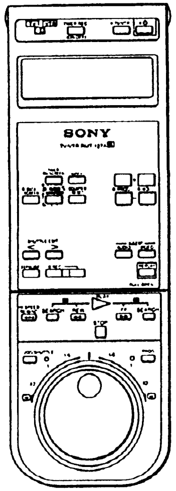
Track	Sound heard	
	Stereo	Bilingual
Hi-Fi audio left channel	Left channel	Main
Hi-Fi audio right channel	Right channel	Sub
Normal audio	Standard	Standard

To record the standard sound only

Follow the operation above and set Hi-FI AUDIO to STD in step 5.
The standard sound will be recorded on the left and right channels of the Hi-Fi video track and the normal audio track.

Note
When there is no NICAM broadcast, the standard sound will be recorded on both the Hi-Fi video track and the normal audio track.





How to select the sound you hear

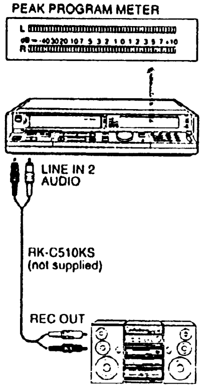
Stereo programme
When a stereo programme is received, "STEREO" and "NICAM" appears in the VCR display panel and you can select the sound to hear.
Press AUDIO MONITOR.
With each press, the STEREO (NICAM L and R channels) or the standard sound is selected alternately.

Display panel	Sound heard
STEREO	Left channel sound on the left channel and right channel sound on the right channel
No indication	Standard sound

Bilingual programme
When a bilingual programme is received, "NICAM" and "MAIN/L" appears in the VCR display panel and you can select the sound to hear.
Press AUDIO MONITOR several times until you can hear the sound you want.
With each press, the sound is cyclically changed in the following order.

Display panel	Sound heard
MAIN/L	Main sound
SUB/R	Sub sound
MAIN/L, SUB/R	Main sound on the left channel and sub sound on the right channel
No indication	Standard sound

Audio Recording



The Hi-Fi recording system of this VCR allows recording of high quality stereo sound from an FM tuner, audio system, or other audio equipment.

Before you begin

- Connect your audio system to the LINE IN 2 AUDIO jacks using the RK-C510KS audio connecting cable (not supplied).
- Set INPUT SELECT to LINE L2.
- Select REC MODE, SP or LP.

Adjusting the Audio Recording Level

Play the recording source. While observing the PEAK PROGRAM METER on the VCR, adjust the REC LEVEL controls as follows.

When recording from records: Adjust the level so that the right-most element (+10) lights up sometimes.

When recording from CDs or using a PCM processor: Adjust the level so that the right most element (+10) lights up only when the signal is input at its maximum level.

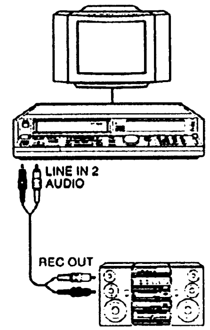
Recording

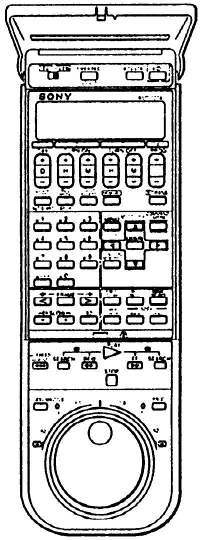
The recording procedure is the same as "Recording While Watching the TV Programme" on page 20.

Caution
To avoid damaging the speakers due to a wide dynamic range of a Hi-Fi recorded tape/disc, turn down the volume of the TV before playing back a Hi-Fi recorded tape/disc.

PCM Recording and Playback

You can perform PCM recording and playback on the video track by connecting a PCM digital audio processor to the LINE IN and OUT VIDEO jacks on this VCR. For details, refer to the instruction manual of the PCM digital audio processor.





Simulcast Recording

You can record a TV programme and the sound from other equipment such as an FM tuner, simultaneously. The audio signals from the TV receiver are recorded on the normal audio track and those from the connected equipment on the Hi-Fi track.

Before you begin

- Connect your audio equipment to the EURO-AV (LINE 1) connector or the LINE IN 2 AUDIO jacks.
  The EURO-AV (LINE 3) (EURO-AV (LINE 3) PAY-TV DECODER for the SLV-725 VC) connector cannot be used for a simulcast.
- Press INPUT SELECT on this VCR to indicate "SIMUL" in the VCR display panel.
- Other settings are the same as "Audio Recording" on the previous page.

Selecting the audio input

1 Press MENU.
The main MENU appears.

2 Press ▲ or ▼ of the cusor keys to move the cursor (▶) to MODE SET.

3 Press EXE.
The MODE SET menu appears.
If the MODE SET [PAGE 2]menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "PREVIOUS PAGE", then press EXE.
The MODE SET [PAGE 1] menu appears.

4 Press ▲ or ▼ of the cursor keys to move the cursor (▶) to SIMUL AUDIO IN.

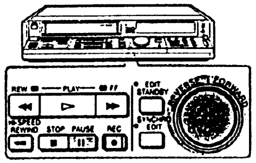
5 Move the dot using ◀ or ▶ of the cursor keys to L1 or L2 whichever your audio equipment is connected to.
Select L1 when your audio equipment is connected to the EURO-AV (LINE 1) connector, and select L2 when your audio equipment is connected to the LINE IN 2 AUDIO jacks.

6 Press EXE to store the setting and return to the original screen.

Recording

The recording procedure is the same as "Recording While Watching the TV Programme" on page 20.

Cutting out the Unwanted Scenes—SHUTTLE EDIT



During Recording

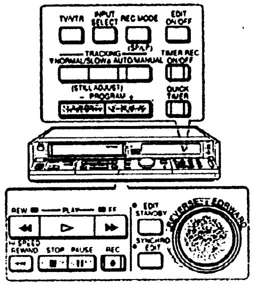
If you wish to cut out scenes such as TV commercials, you can pause recording and play back the tape in the reverse direction until the beginning of an unwanted scene is reached. Then, record over it. This feature only works from the VCR.
During timer-activated recording, you cannot use this function.

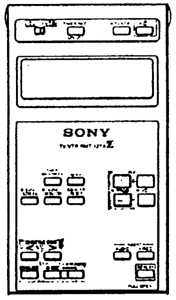
1 Press II PAUSE during recording.
The VCR enters recording pause mode.

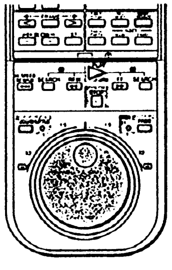
2 Turn the JOG dial and the SHUTTLE ring on the VCR counterclockwise to rewind the tape until the unwanted scene appears.

If you turn the JOG dial, you can select the playback speed by how fast you turn it, and if you turn the SHUTTLE ring, you can select the playback speed by how far you turn it .
When you release the dial or ring, the VCR enters recording pause mode.

3 Press II PAUSE when a wanted scene appears on the screen.
Recording starts.







Note
The picture may be distorted a moment at the cut-out point (recording end point).

During Playback

You can re-record onto an unwanted portion of a pre-recorded cassette.
Use the JOG dial and the **SHUTTLE** ring on the VCR or on the remote control.

1. **Press ⏸ PAUSE at the end of the unwanted scene during playback.**
   The VCR enters playback pause mode.
2. **Turn the dial or ring until the beginning of the unwanted scene appears on the screen.**
   If you turn the JOG dial, you can select the playback speed by how fast you turn it, and if you turn the **SHUTTLE** ring, you can select the playback speed by how far you turn it.
   When you release the ring, the VCR enters playback pause mode.
   You can also use the SHUTTLE EDIT buttons on the remote control to find the scene.
3. **Press ●REC on the VCR or ●RECs on the remote control.**
   The VCR enters recording pause mode.
4. **Select a new programme for re-recording.**
   Press PROG +/– on the flap of the remote control or PROGRAM +/– on the inside surface of the upper drop-down panel of the VCR to select the programme position.
   You can also use the jog dial to select the programme position. To use this, press the **PROG** function button to light the indicator beside the button. Turn the jog dail clockwise for higher numbered programme positions or couterclockwise for lower numbered programme positions.
   The programme number will change in the VCR display panel and on the TV screen.
5. **Press ⏸ PAUSE when the scene to be recorded begins to appear on the screen.**
   Recording begins.

To stop recording, press ■ STOP.

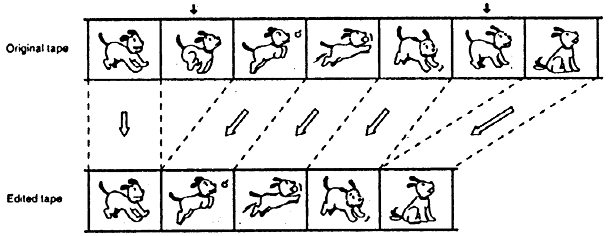
Overview of the Editing Functions

Using a second VCR, you can record programmes from one VCR to the other.
The following are the tape editing functions available on the VCR. You can perform these editings using the synchronized editing function or manually (not using the synchronized editing). In this section, the editing using the synchronized editing function will be mainly explained.

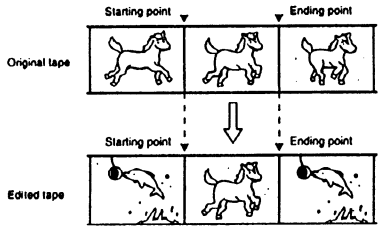
- **To make a copy of a tape.**
  — See "Tape Dubbing" on page 51.

Original tape
Copy of tape

- **To edit out unwanted scenes using the synchronized editing function (Synchronized Assemble Editing)**
  You can use the synchronized editing function to perform assemble editing and insert editing if your other VCR has a control L connector. Using this function controls both the playback VCR and the recording VCR simultaneously.
  — See "Synchronized Editing" on page 54.



- **To insert a new picture and/or sound onto a previously recorded tape**
  — See "Insert Editing" on page 59.



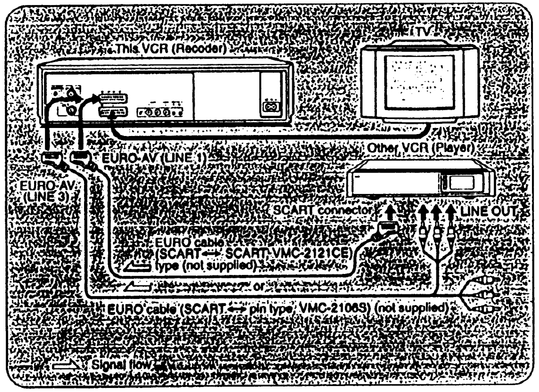
Tape Dubbing

Editing from the Other VCR

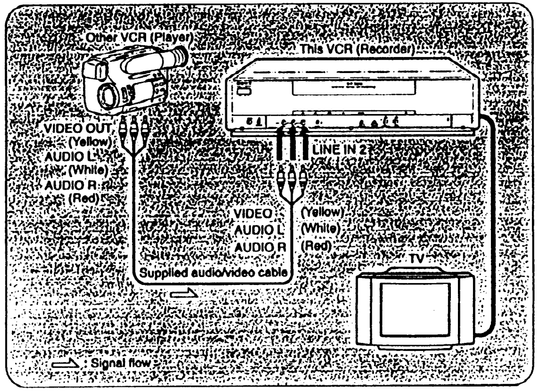
Here's how to edit from the other VCR (such as an 8mm video camera recorder or a VHS-format VCR for playback) when using this VCR for recording.
You can use the video/audio jacks on the front panel, or the 21-pin EURO-AV connector on the rear panel to perform this operation.

Connections

When using the 21-pin EURO-AV connector

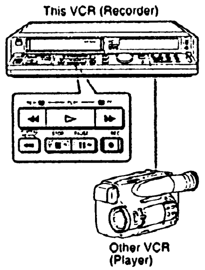

TV
This VCR (Recoder)
Other VCR (Player)
EURO-AV (LINE 1)
EURO-AV (LINE 3)
SCART connector
LINE OUT
EURO cable (SCART ⟷ SCART VMC-2121CE) type (not supplied)
or
EURO cable (SCART ⟷ pin type, VMC-2106S) (not supplied)
Signal flow

When using the front panel video/audio jacks


Other VCR (Player)
This VCR (Recorder)
VIDEO OUT (Yellow)
AUDIO L (White)
AUDIO R (Red)
LINE IN 2
VIDEO
AUDIO L
AUDIO R
(Yellow)
(White)
(Red)
Supplied audio/video cable
TV
: Signal flow

Notes

- If the other VCR is a monaural type, connect the white plug to LINE IN 2 AUDIO L and leave the red plug unconnected. This enables the sound to be separated into the right and left channels. If the other VCR is a stereo type, make connections with both the red and white plugs.
- Press INPUT SELECT on this VCR to indicate LINE L1, LINE L2 or LINE L3 in the VCR display panel to match the jack to which you have connected the other VCR.


This VCR (Recorder)
Other VCR (Player)

Before you begin

- Select the tape speed (SP or LP) with REC MODE.
- Press the INPUT SELECT button to select LINE IN 1 or LINE IN 2.
  (When connected to the rear panel, select LINE IN 1. When connected to the front panel, select LINE IN 2).
  L1 or L2 appears in the VCR display panel.
- If your playback VCR has an editing function, select it to reduce static and improve reception.
- Adjust the REC LEVEL control (see "Audio Recording" on page 46).

Operation

1 Insert a blank cassette into this VCR (recorder).

2 Turn on the other VCR (player) and insert a source cassette.

3 Locate the playback starting point and select the playback pause mode on the other VCR (player).

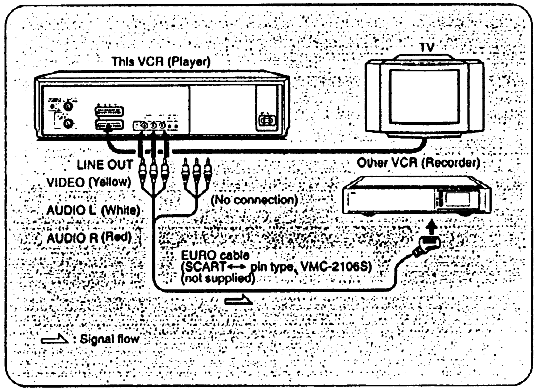
4 Locate the recording starting point and select the recording pause mode on this VCR (recorder).

5 Press II PAUSE on both VCRs.
For best result, press II PAUSE on the other VCR (player) just before pressing II PAUSE on this VCR (recorder).
When you've finished editing, press ■ STOP on both VCRs.

Editing onto the Other VCR

Here's how to use this VCR as the playback VCR and the other VCR as the recording VCR.

Connections


This VCR (Player)
TV
LINE OUT
VIDEO (Yellow)
AUDIO L (White)
AUDIO R (Red)
(No connection)
Other VCR (Recorder)
EURO cable
(SCART↔ pin type, VMC-2106S)
(not supplied)
⇨ : Signal flow

Before you begin

- Press the EDIT button so that the EDIT indicator lights up in the VCR display panel.
  If your recording VCR has an editing function, it should also be selected to improve reception.
- Press AUDIO MONITOR on the remote control to select the sound to be recorded.

Operation

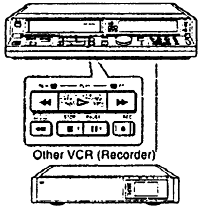
1 Turn on the other VCR (recorder) and insert a blank cassette.

2 Insert a source cassette into this VCR (player).

3 Locate the playback start point and select the playback pause mode on this VCR (player).

4 Locate the recording start point and select the recording pause mode on the other VCR (recorder).

5 Press ❙❙ PAUSE on both VCRs.
For best results, press ❙❙ PAUSE on this VCR (player) just before pressing ❙❙ PAUSE on the other VCR (recorder).
When you've finished editing, press ■ STOP on both VCRs.


This VCR (Player)
Other VCR (Recorder)

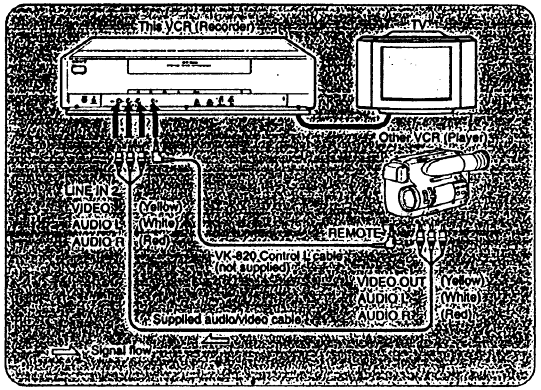
Notes
- If your recording VCR is a monaural type, make connections using the VMC-910MS/920MS cable (not supplied).
- When connecting the VCRs, do not connect both LINE IN and LINE OUT jacks on your VCR simultaneously. Doing so may cause a humming noise.

Synchronized Editing

If your other VCR has a control L connector, and/or CONTROL S IN connector, you can take advantage of a feature called "Synchronized Editing" that controls both VCRs (recording VCR and playback VCR), and releases the pause when the SYNCHRO EDIT button is pressed. To use this function, you must connect the control cable in addition to the connections of the audio and video cables. There are two types of control cables: control L (LANC or REMOTE) cable or control S cable. Which cable you need to use depends on the connectors that your other VCR has.

Connecting Video Equipment with the LANC connector

When using the front panel jacks

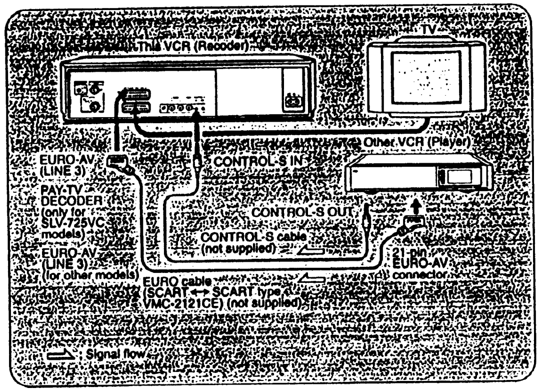

This VCR (Recorder)
TV
Other VCR (Player)
LINE IN 2
VIDEO
AUDIO L
AUDIO R
(Yellow)
(White)
(Red)
REMOTE
VK-820 Control L cable
(not supplied)
VIDEO OUT
AUDIO L
AUDIO R
(Yellow)
(White)
(Red)
Supplied audio/video cable
⇨ Signal flow

Important
After you have made the connections, make sure you set the LANC mode (see page 56).

About the ⊏ (LANC)
LANC stands for Local Application Control System.
The LANC connector is used for controlling the tape transport of video equipment and peripherals connected to it.
This connector has the same function as the connectors indicated as CONTROL L or REMOTE.

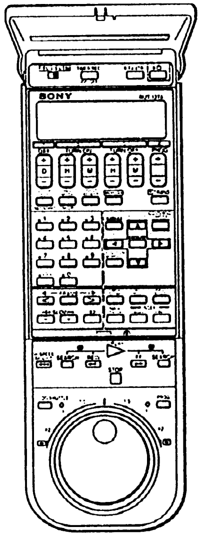
Notes
- When connecting the VCRs, do not connect both LINE IN and LINE OUT jacks on your VCRs simultaneously. Doing so may cause a humming noise.
- When the REMOTE connector of the other VCR is a stereo mini-mini plug, use the VK-820 control L cable (not supplied). If it is a 5-pin DIN connector, use the VK-810 control L cable (not supplied).
- If your playback VCR is a monaural type, connect the white plug to LINE IN 2 AUDIO L on this VCR. This lets you record the sound of the playback VCR on both channels of this VCR.
- If another VCR has both the LANC connector and the CONTROL S connector, use the LANC connector. Do not make the LANC and CONTROL S connections simultaneously.

Connecting Video Equipment with the CONTROL S connector


This VCR (Recoder)
TV
Other VCR (Player)
EURO-AV (LINE 3)
PAY-TV DECODER (only for SLV-725VC models)
EURO-AV (LINE 3) (for other models)
CONTROL-S IN
CONTROL-S OUT
CONTROL-S cable (not supplied)
21-pin EURO-AV connector
EURO cable (SCART ↔ SCART type VMC-2121CE) (not supplied)
Signal flow

When using the CONTROL S cable
Set the commander mode of this VCR and thè other video equipment to the same position.
If the other video equipment has the synchronized function, use the SYNCHRO EDIT button on other equipment.
Comparing to the synchronized editing using the LANC connector, the synchronized editing using the CONTROL S connector only enables you to pause both VCRs and release the pause mode of both VCRs.

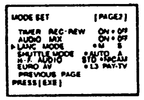
Note
When connecting the other VCR to LINE IN 2 on the front, use the supplied video/audio connecting cable. If the other VCR is a monaural type, connect to LINE IN 2 AUDIO L using the white plugs. This enables the sound to be separated into the right and left channels. Leave the red plugs unconnected.



Setting the LANC MODE and SHUTTLE MODE

After you have made the control L cable connection on page 54, you must choose the LANC MODE and SHUTTLE MODE setting. The LANC MODE setting decides which VCR controls which. Use the MODE SET [PAGE 2] for this setting.
Here's how to do this setting.

1. Press MENU to display the main MENU.
2. Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "MODE SET."
3. Press EXE.
   The MODE SET menu appears.
   If the MODE SET [PAGE 1] menu is displayed on your TV screen, press ▲ or ▼ of the cursor keys to move the cursor (▶) to "NEXT PAGE", then press EXE.
4. Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "LANC MODE."



```
MODE SET                 [PAGE2]

  TIMER  REC-REW         ON • OFF
  AUDIO  MIX             ON • OFF
▶ LANC  MODE            •M     S
  SHUTTLE MODE        •AUTO    A
  H-F. AUDIO          STD •NICAM
  EURO AV             •L3 PAY-TV
  PREVIOUS  PAGE
PRESS [EXE]
```

5. Select "M" or "S" using ◀ or ▶ of the cursor keys.
   When you want to control the other VCR from this VCR, select "M."
   When you want to control this VCR from the other VCR, select "S."
6. Press ▲ or ▼ of the cursor keys to move the cursor (▶) to "SHUTTLE MODE."
7. Select "AUTO" or "A" using ◀ or ▶ of the cursor keys.
   Normally set to "AUTO." The VCR detects automatically whether the other VCR has a reverse slow-motion playback function or not. If the other VCR doesn't perform tape movement as you operated, select "A."
   When you select "A", the tape will come to move only in the forward direction, and the JOG dial doesn't work (for details, see page 39).
8. Press EXE to store the setting.
   The TV screen returns to the original screen.

Synchronized Assemble Editing

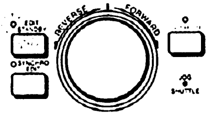
You can display the picture of the playback VCR and recording VCR alternately. This allows you to perform editing while previewing editing scenes.

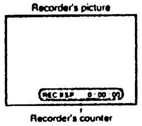
Before you begin

- Press the REC MODE button on the VCR or on the remote control to select the tape speed (SP or LP) .
- Check the SHUTTLE MODE setting (see page 56).

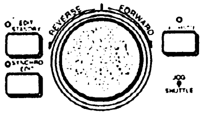
1 Insert a recorded cassette into the other VCR and insert a cassette for recording into this VCR.

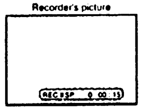
2 Press EDIT STANDBY.
This VCR (recorder) will enter recording pause mode, the other VCR (player) enters playback pause mode.
The EDIT STANDBY indicator on the front panel of this VCR lights up.
The LINE IN 2 input is automatically selected. If other VCR (player) is connected to the rear panel, press the INPUT SELECT button to select LINE IN 1 or LINE 3.
The LANC MODE setting is automatically set to "M."


EDIT STANDBY
REVERSE
FORWARD
SYNCHRO EDIT
JOG
SHUTTLE


Recorder's picture
REC ▮SP 0:00:00
Recorder's counter

3 Locate the starting point where you want to begin recording, using the JOG dial and the SHUTTLE ring.


EDIT STANDBY
REVERSE
FORWARD
SYNCHRO EDIT
JOG
SHUTTLE

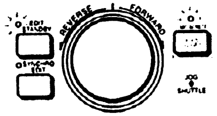

Recorder's picture
REC ▮SP 0:00:15

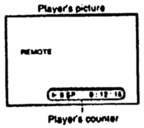
Recorder's counter
(The operation mode indication is changed depending on the operation mode of the JOG/SHUTTLE.)

(Continued)

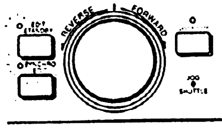
⇨ Now you should determine the starting point where the player begins playback.

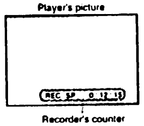
4 Press LANC REMOTE.
The LANC REMOTE indicator lights up and locate the playback starting point, using the JOG dial and the SHUTTLE ring.


EDIT STANDBY
REVERSE
FORWARD
SYNCHRO EDIT
JOG
SHUTTLE

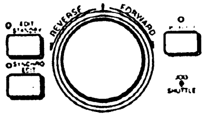

Player's picture
REMOTE
▶ ▮SP 0:12:16
Player's counter

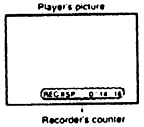
5 Press SYNCHRO EDIT.
The SYNCHRO EDIT indicator lights up.
The pause mode of the playback VCR and the recording VCR are released, and the recording starts.


EDIT STANDBY
REVERSE
FORWARD
SYNCHRO EDIT
JOG
SHUTTLE


Player's picture
REC SP 0:12:15
Recorder's counter

6 Press SYNCHRO EDIT at the scene where you want to stop recording.
The playback VCR and recording VCR enter pause mode.


EDIT STANDBY
REVERSE
FORWARD
SYNCHRO EDIT
JOG
SHUTTLE


Player's picture
REC ▮SP 0:14:16
Recorder's counter

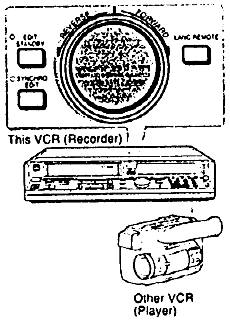
To edit another scene
Repeat steps 3 through 6.

To stop editing
Press EDIT STANDBY.
Both the playback VCR and the recording VCR stop.

"Advanced Synchro Edit"
When you connect this VCR with a video camera recorder (camcorder) or another VCR which responds to the advanced synchro edit function (such as CCD-V800E, CCD-F550E, and CCD-TR805E, etc), you can take advantage of this precise editing function.

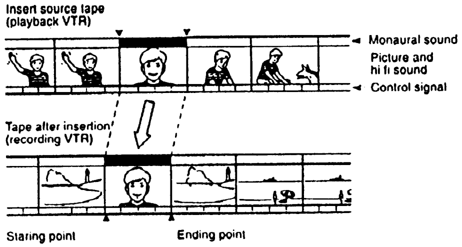
Convenient use of the LANC REMOTE button
If you connect your video camera recorder (camcorder) to your TV using an audio/video cable and to this VCR using the LANC cable, you can control the tape operation of your video camera recorder (camcorder) from this VCR.
If your video camera recorder (camcorder) has a reverse playback function such as –slow playback, –X2 speed playback and –X1 playback, you can control the reverse operation using the JOG dial and the SHUTTLE ring (for details, see page 39).

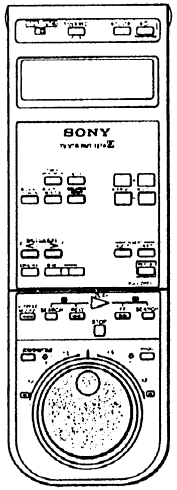
Insert Editing


EDIT STANDBY
SYNCHRO EDIT
REVERSE
FORWARD
LANC REMOTE
This VCR (Recorder)
Other VCR (Player)

Inserting a New Picture and/or Sound

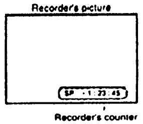
You can easily insert a new picture and/or sound onto a pre-recorded tape. This editing is useful to replace an unnecessary scene (or sound) with another scene (or sound).


Insert source tape (playback VTR)
Monaural sound
Picture and hi fi sound
Control signal
Tape after insertion (recording VTR)
Staring point
Ending point



Before You Begin

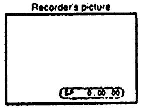
- For connection, see page 54 or 55.(The CONTROL L or CONTROL S connection is not necessary).
- Select the insert source from the equipment connected to EURO-AV (LINE 1), LINE 2 and EURO-AV (LINE 3).


Recorder's picture
SP ·1:23:45
Recorder's counter

Operation

1 Insert a source tape into the playback VCR. Insert a tape for recording into this VCR.

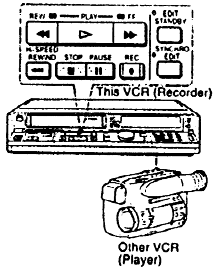
2 Press EDIT ON/OFF.
If the playback VCR is equipped with the EDIT switch, set it to ON.

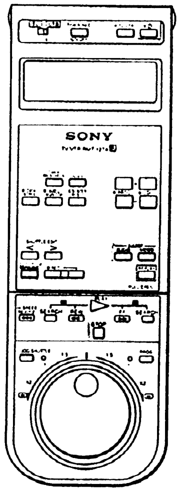

Recorder's picture
SP 0:00:00

3 On this VCR, locate the ending point and press COUNTER RESET.
The counter will show "0:00:00" and the ending point will be memorized.

4 On this VCR, locate the starting point and set the VCR to the playback pause mode. JOG/SHUTTLE or SHUTTLE EDIT are useful for this operation.
When you use the JOG/SHUTTLE on the remote control, press the JOG/SHUTTLE button to light the indicator beside the button first.

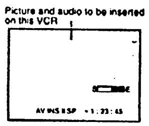
(Continued)


REW/ — PLAY — FF
EDIT STANDBY
H. SPEED REWIND
STOP
PAUSE
REC
SYNCHRO EDIT
This VCR (Recorder)
Other VCR (Player)



Note
The MIC jack of this VCR is adaptable to the use of a monaural mini plug. If you connect a stereo microphone, the audio will be recorded in monaural.

5 Press AUDIO/VIDEO INSERT.


Picture and audio to be inserted on this VCR
AV INS II SP ·1:23:45

When the VIDEO INSERT button is pressed
The picture and the sound on the Hi-Fi audio track will be inserted. (The sound on the normal audio track will be retained.)

When the AUDIO INSERT button is pressed
The sound on the normal audio track will be inserted. (The picture and the sound on the Hi-Fi audio track will be retained.)

When the VIDEO and AUDIO INSERT buttons are pressed (AV INSERT)
The picture, sound on the Hi-Fi audio track, and the sound on the normal audio track will be inserted.

The indicator corresponding to the button pressed will light up.
At the ending point (0:00:00), the insertion will stop automatically.

6 On the playback VCR, locate the starting point where you want to start the insertion and set the VCR to the playback pause mode.

7 Press II PAUSE on both VCRs to start the insertion.
At the ending point (0:00:00), the insertion will stop automatically.

To stop the insertion temporarily

Press II PAUSE.

To stop on-going insertion

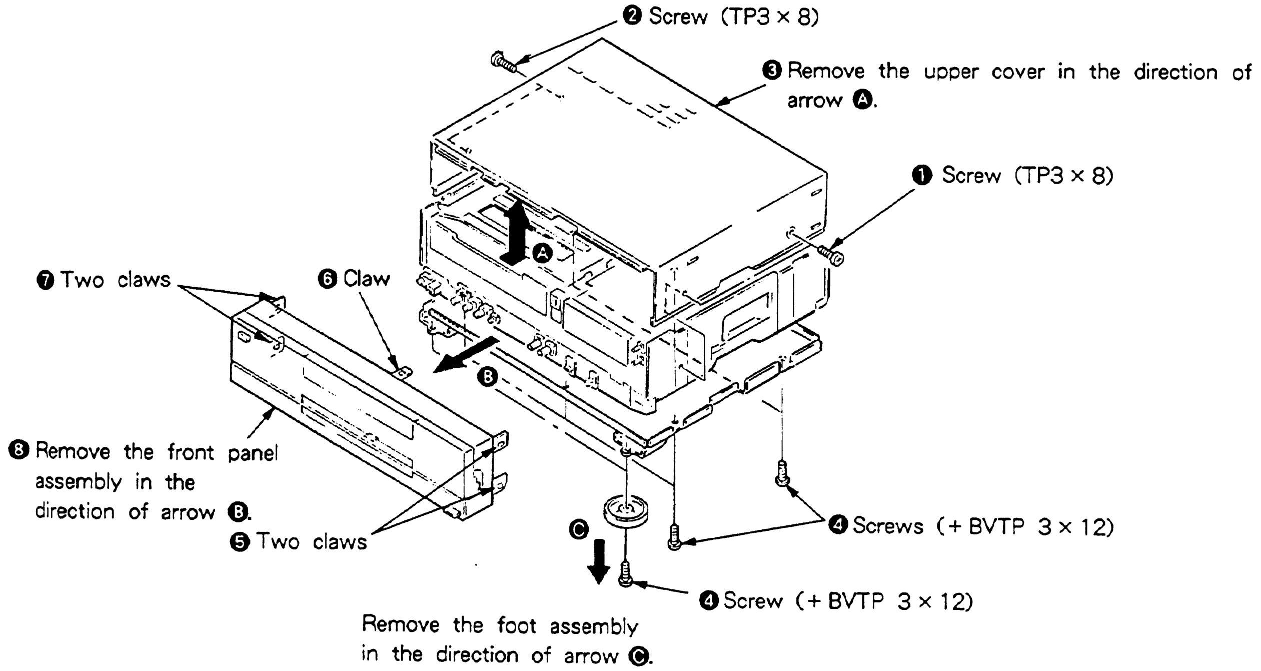
Press ■ STOP.

When the sound from the microphone is inserted

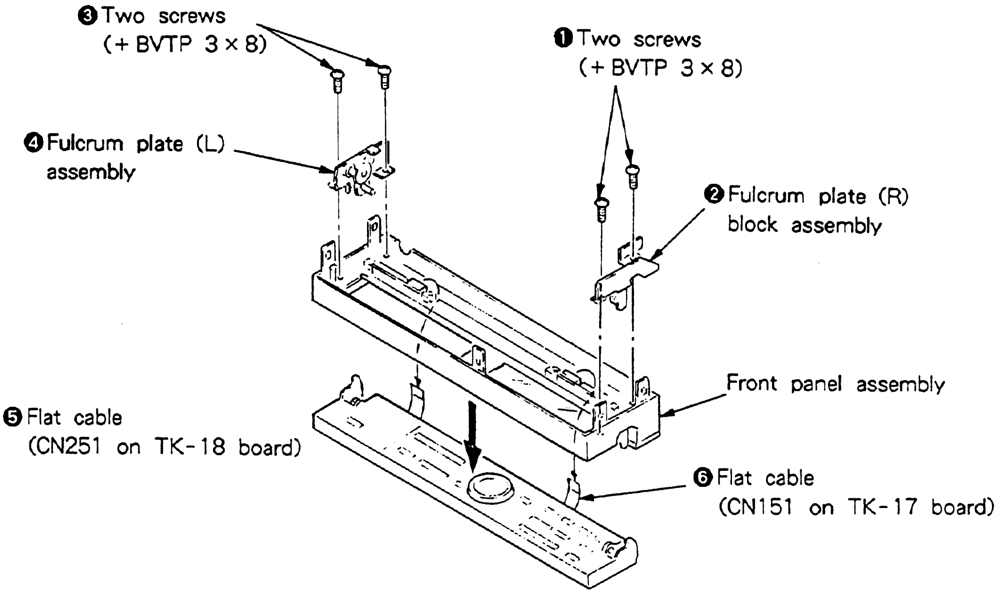
When the microphone is connected to the MIC jack, the sound from the microphone is automatically selected and it is recorded on the normal track.
To record the sound from the microphone, select AUDIO or AV INSERT.

SECTION 2
DISASSEMBLY

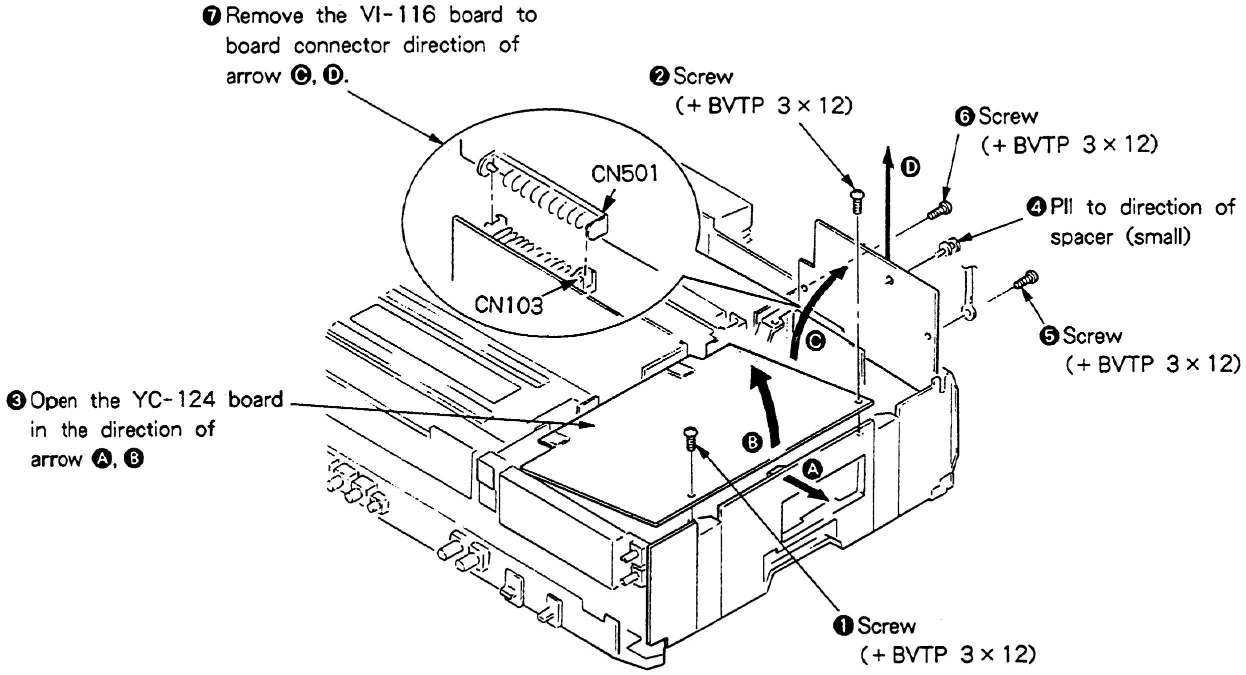
2-1. REMOVAL OF FRONT PANEL AND CABINET ASSEMBLIES


❷ Screw (TP3 × 8)
❸ Remove the upper cover in the direction of arrow Ⓐ.
❶ Screw (TP3 × 8)
❼ Two claws
❻ Claw
Ⓐ
Ⓑ
❽ Remove the front panel assembly in the direction of arrow Ⓑ.
❺ Two claws
Ⓒ
❹ Screws (+ BVTP 3 × 12)
❹ Screw (+ BVTP 3 × 12)
Remove the foot assembly in the direction of arrow Ⓒ.

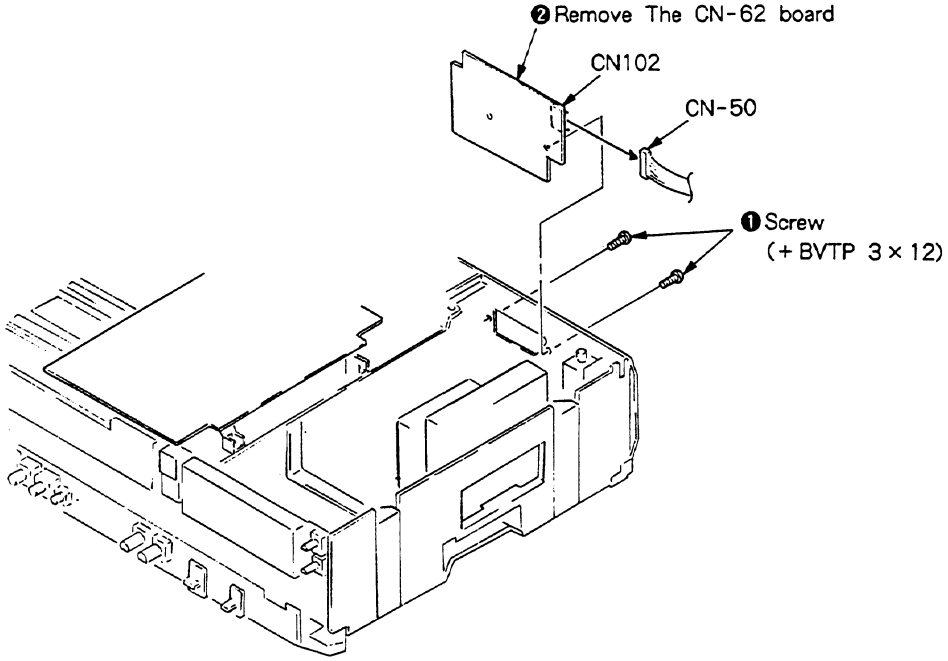
2-2. REMOVAL OF CONTROL SWITCH BLOCK


❸ Two screws (+ BVTP 3 × 8)
❶ Two screws (+ BVTP 3 × 8)
❹ Fulcrum plate (L) assembly
❷ Fulcrum plate (R) block assembly
Front panel assembly
❺ Flat cable (CN251 on TK-18 board)
❻ Flat cable (CN151 on TK-17 board)

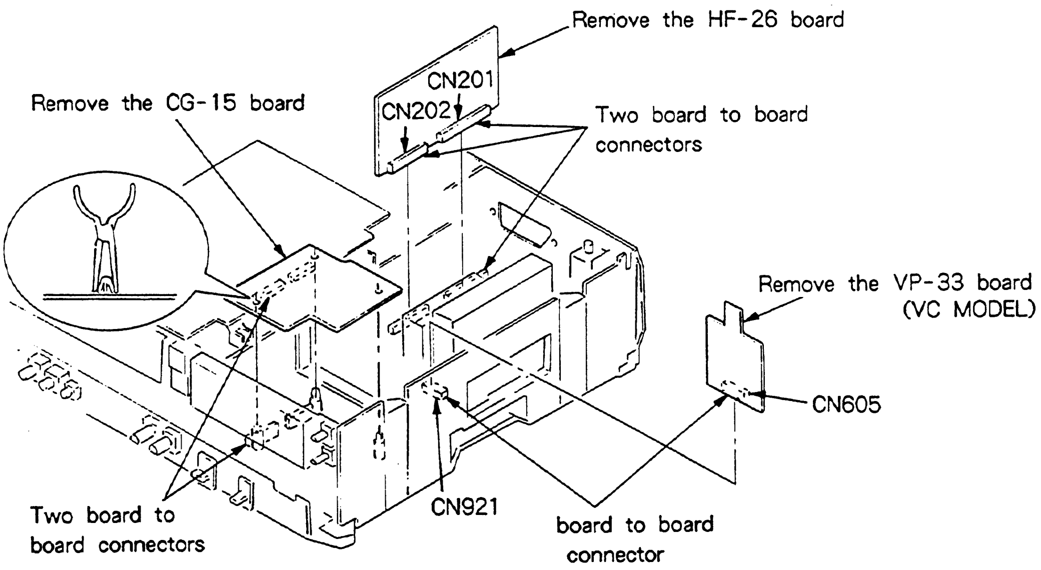
2-3. OPENING OF YC-124 BOARD AND VI-116 BOARD


❼ Remove the VI-116 board to board connector direction of arrow ❸, ❹.
❷ Screw (+BVTP 3 × 12)
❻ Screw (+BVTP 3 × 12)
❹ Pll to direction of spacer (small)
❺ Screw (+BVTP 3 × 12)
CN501
CN103
❸ Open the YC-124 board in the direction of arrow Ⓐ, Ⓑ
Ⓓ
Ⓒ
Ⓑ
Ⓐ
❶ Screw (+BVTP 3 × 12)

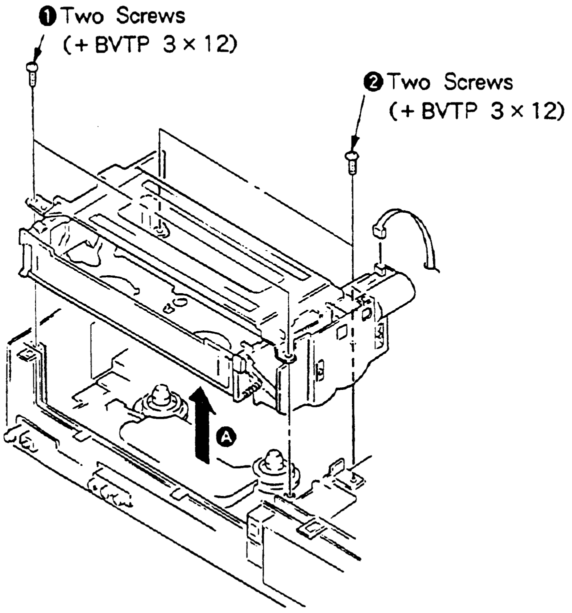
2-4. REMOVAL OF CN-62 BOARD


❷ Remove The CN-62 board
CN102
CN-50
❶ Screw (+BVTP 3 × 12)

2-5. REMOVAL OF HF-26, VP-33, CG-15, BOARD


Remove the HF-26 board
CN201
CN202
Remove the CG-15 board
Two board to board connectors
Remove the VP-33 board (VC MODEL)
CN605
Two board to board connectors
CN921
board to board connector

2-6. REMOVAL OF FL CASSETTE COMPARTMENT ASSEMBLY

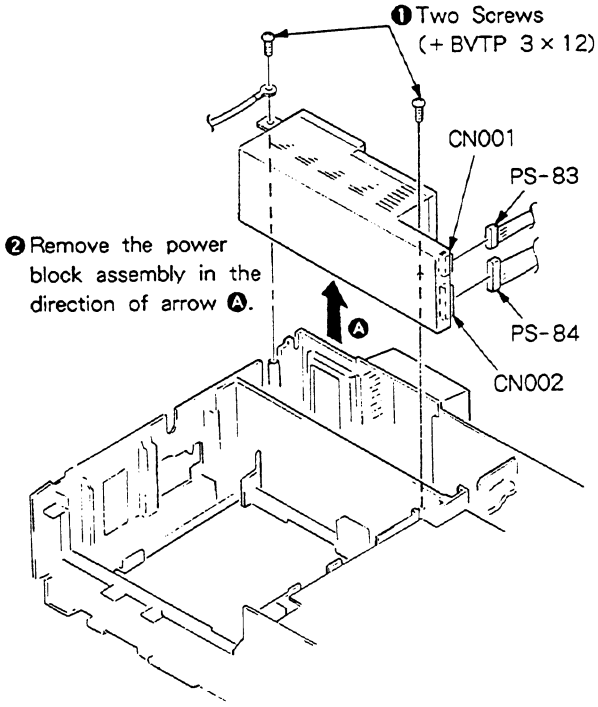


❶ Two Screws (+BVTP 3 × 12)

❷ Two Screws (+BVTP 3 × 12)

❸ Remove the FL cassette comparment assembly in the direction of arrow Ⓐ.

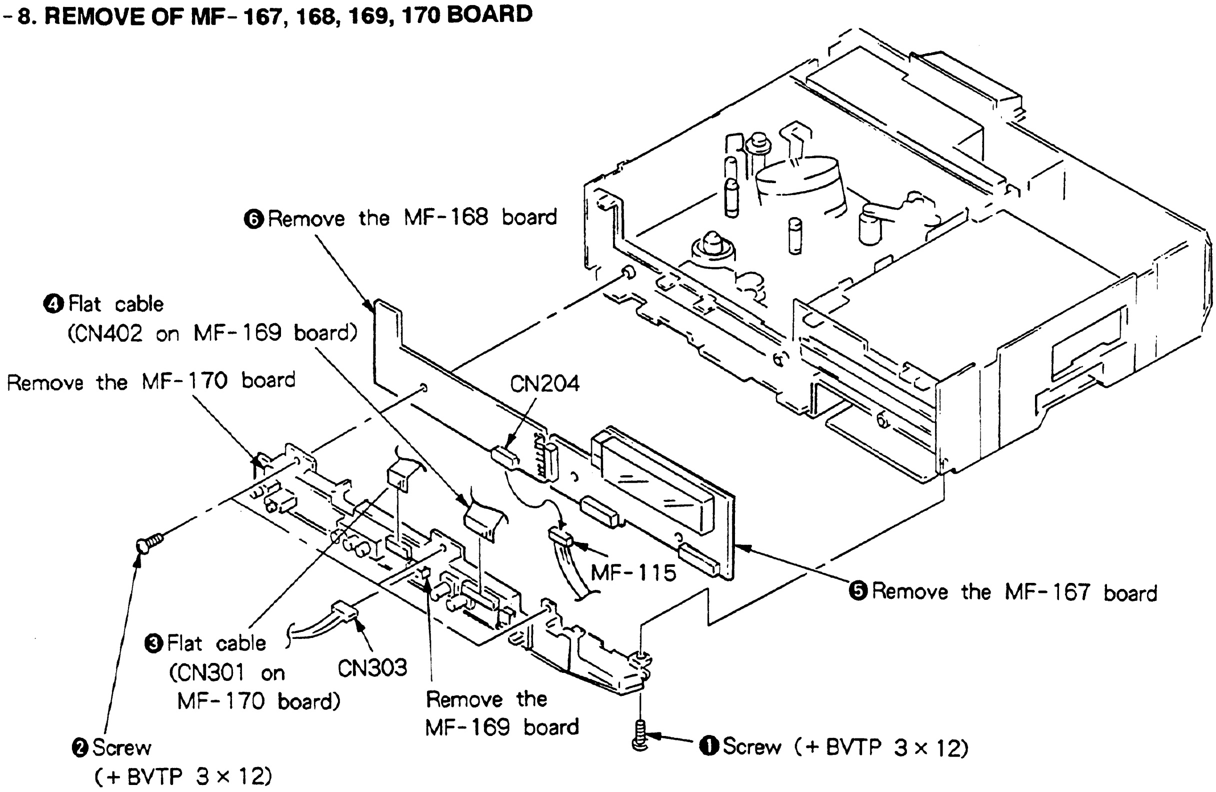
2-7. REMOVE OF POWER BLOCK ASSEMBLY


CN001
PS-83
PS-84
CN002
A

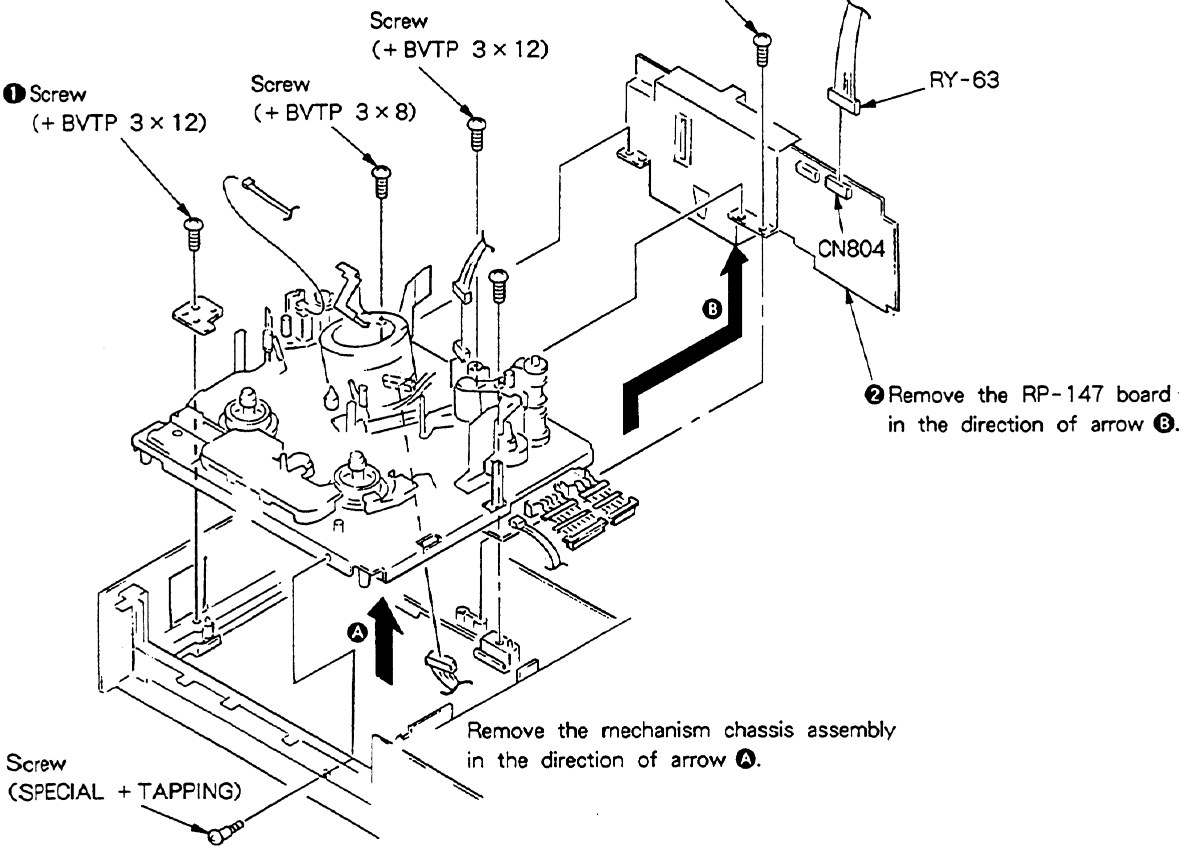
❶ Two Screws (+BVTP 3 × 12)

❷ Remove the power block assembly in the direction of arrow Ⓐ.

2-8. REMOVE OF MF-167, 168, 169, 170 BOARD

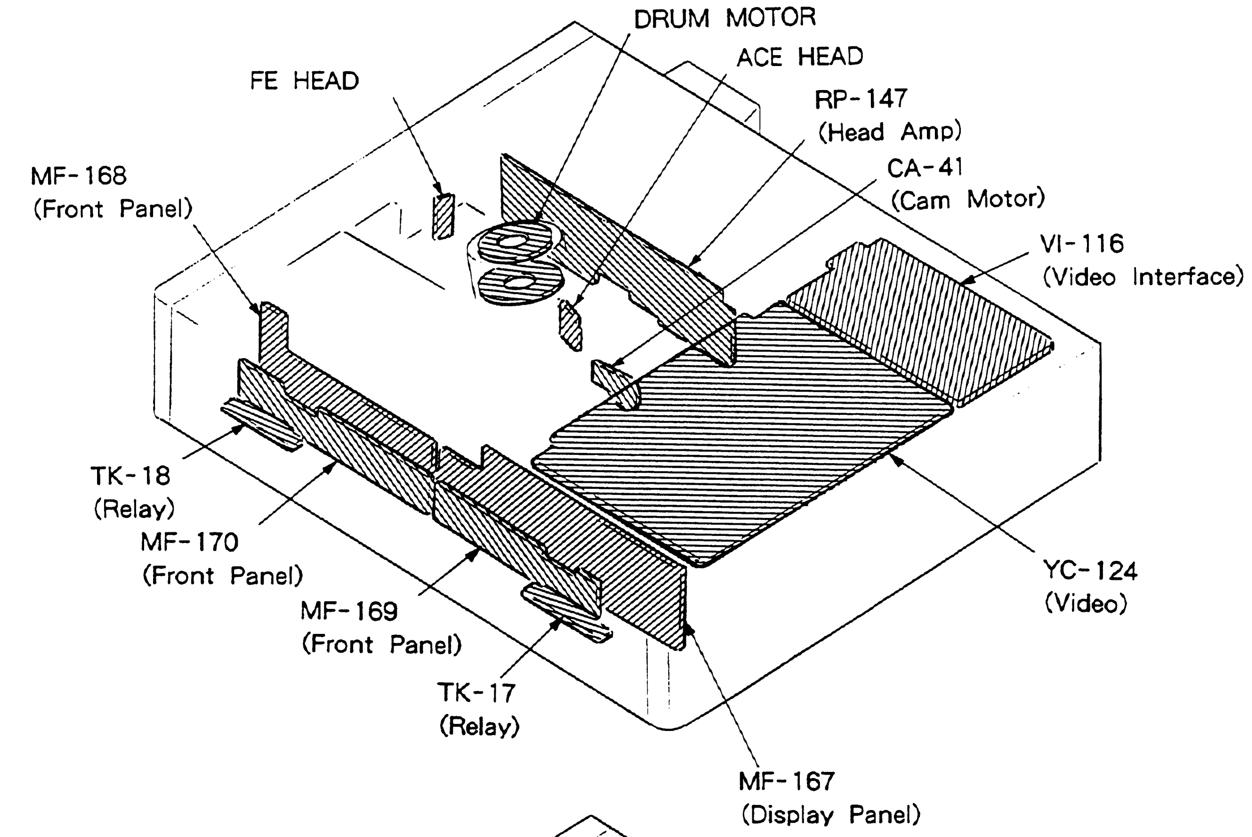

❻Remove the MF-168 board
❹Flat cable
(CN402 on MF-169 board)
Remove the MF-170 board
CN204
MF-115
❺Remove the MF-167 board
❸Flat cable
(CN301 on
MF-170 board)
CN303
Remove the
MF-169 board
❶Screw (+BVTP 3×12)
❷Screw
(+BVTP 3×12)

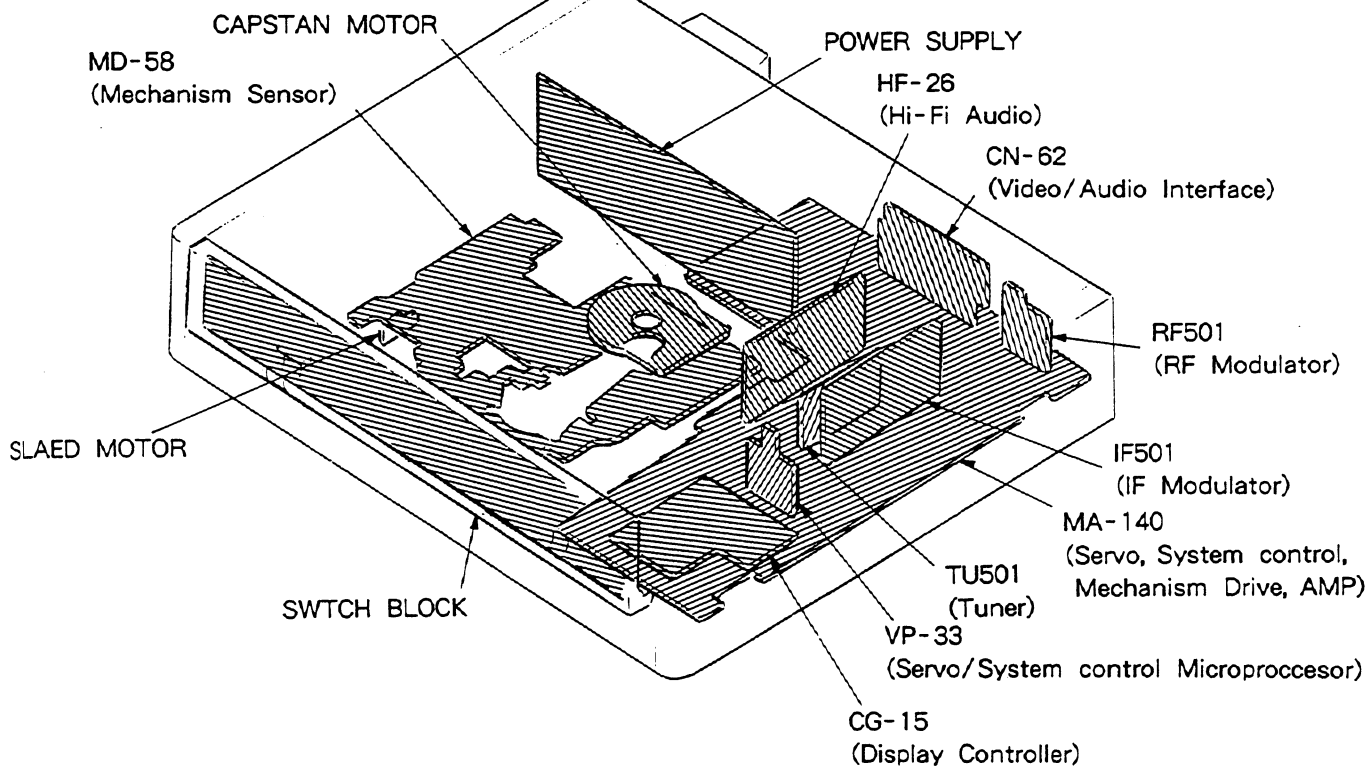
2-9. REMOVE OF MECHANISM CHASSIS AND RP-147 BOARD


❶Screw
(+BVTP 3×12)
Screw
(+BVTP 3×12)
❶Screw
(+BVTP 3×12)
Screw
(+BVTP 3×8)
RY-63
CN804
Ⓑ
❷Remove the RP-147 board
in the direction of arrow Ⓑ.
Ⓐ
Remove the mechanism chassis assembly
in the direction of arrow Ⓐ.
Screw
(SPECIAL +TAPPING)

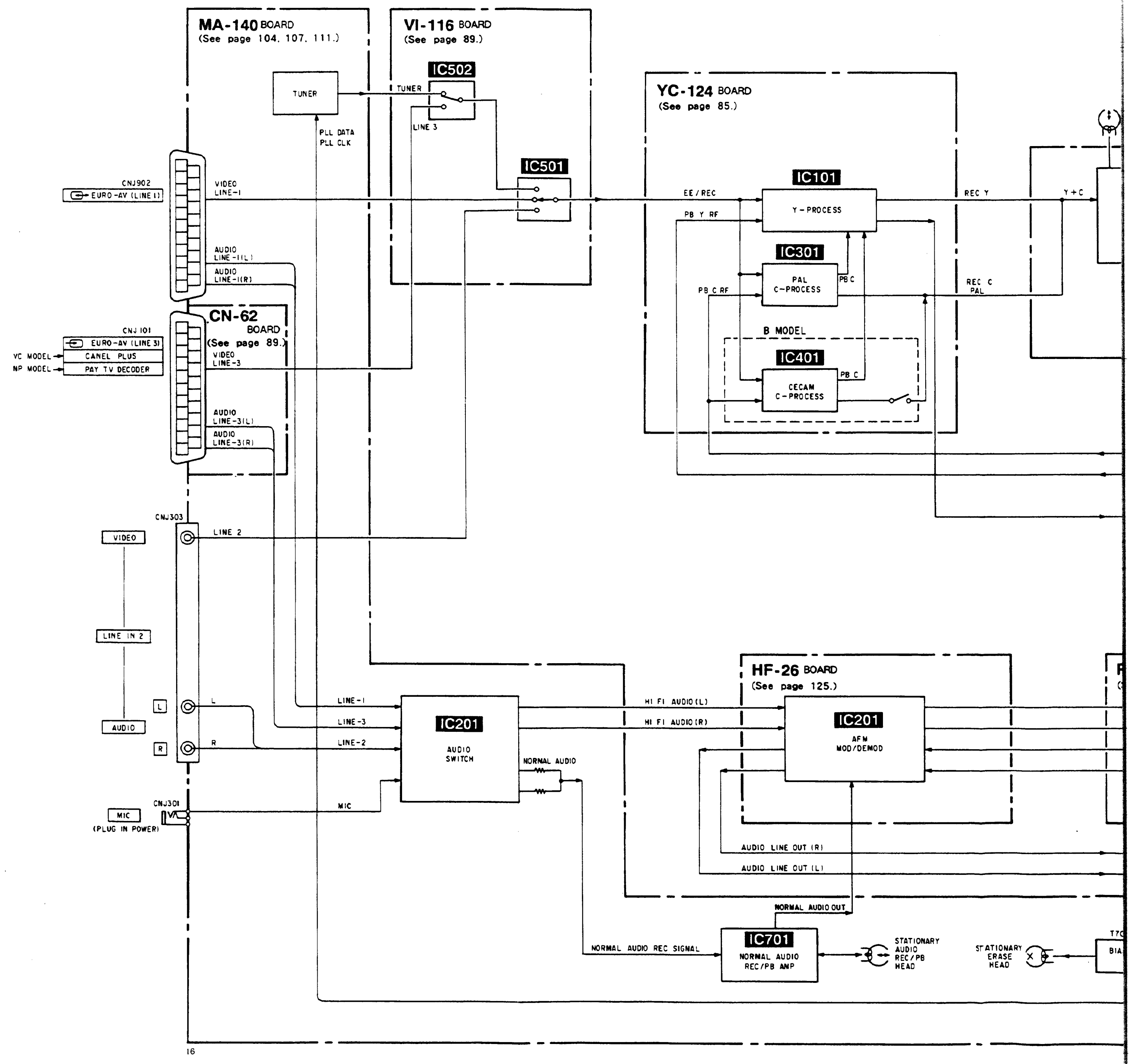
SECTION 3
DIAGRAMS

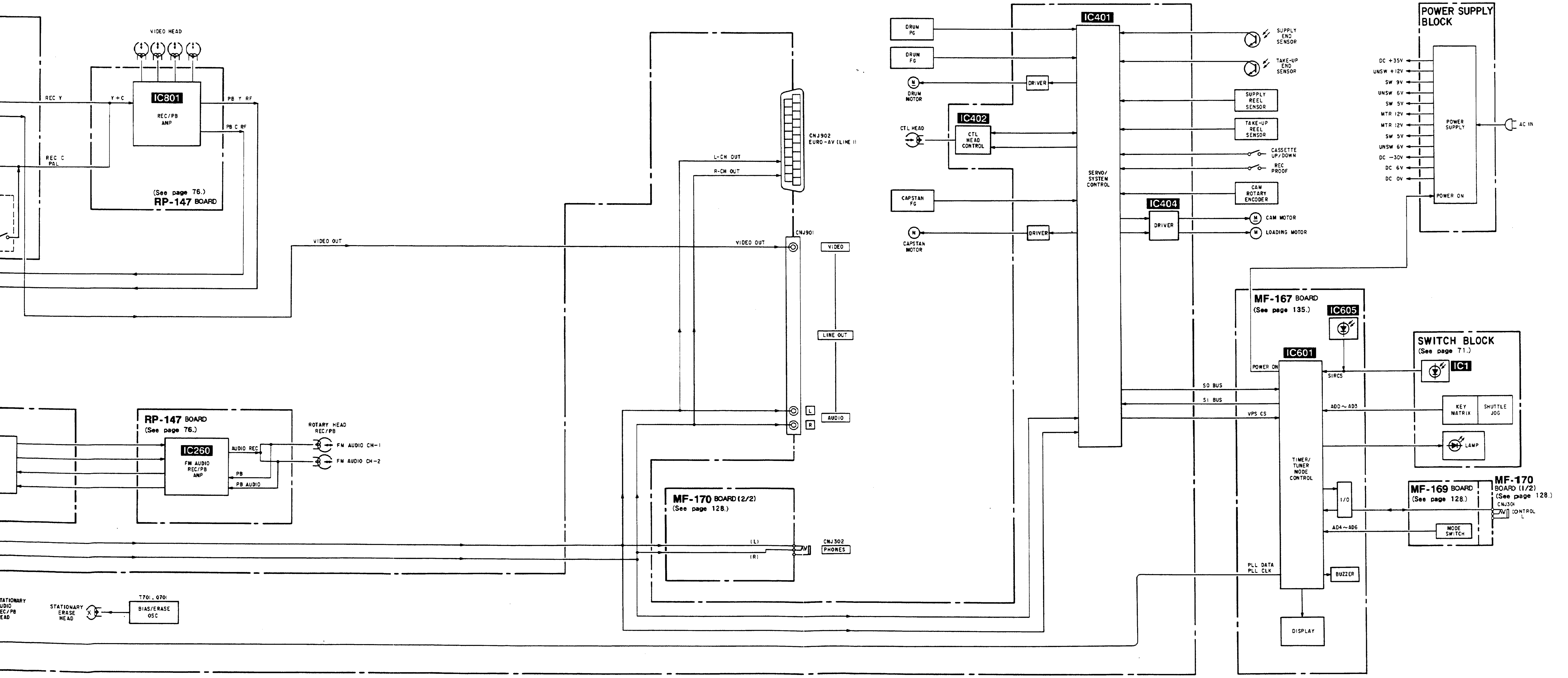
3-1. CIRCUIT BOARDS LOCATION


DRUM MOTOR
ACE HEAD
FE HEAD
RP-147
(Head Amp)
MF-168
(Front Panel)
CA-41
(Cam Motor)
VI-116
(Video Interface)
TK-18
(Relay)
MF-170
(Front Panel)
YC-124
(Video)
MF-169
(Front Panel)
TK-17
(Relay)
MF-167
(Display Panel)

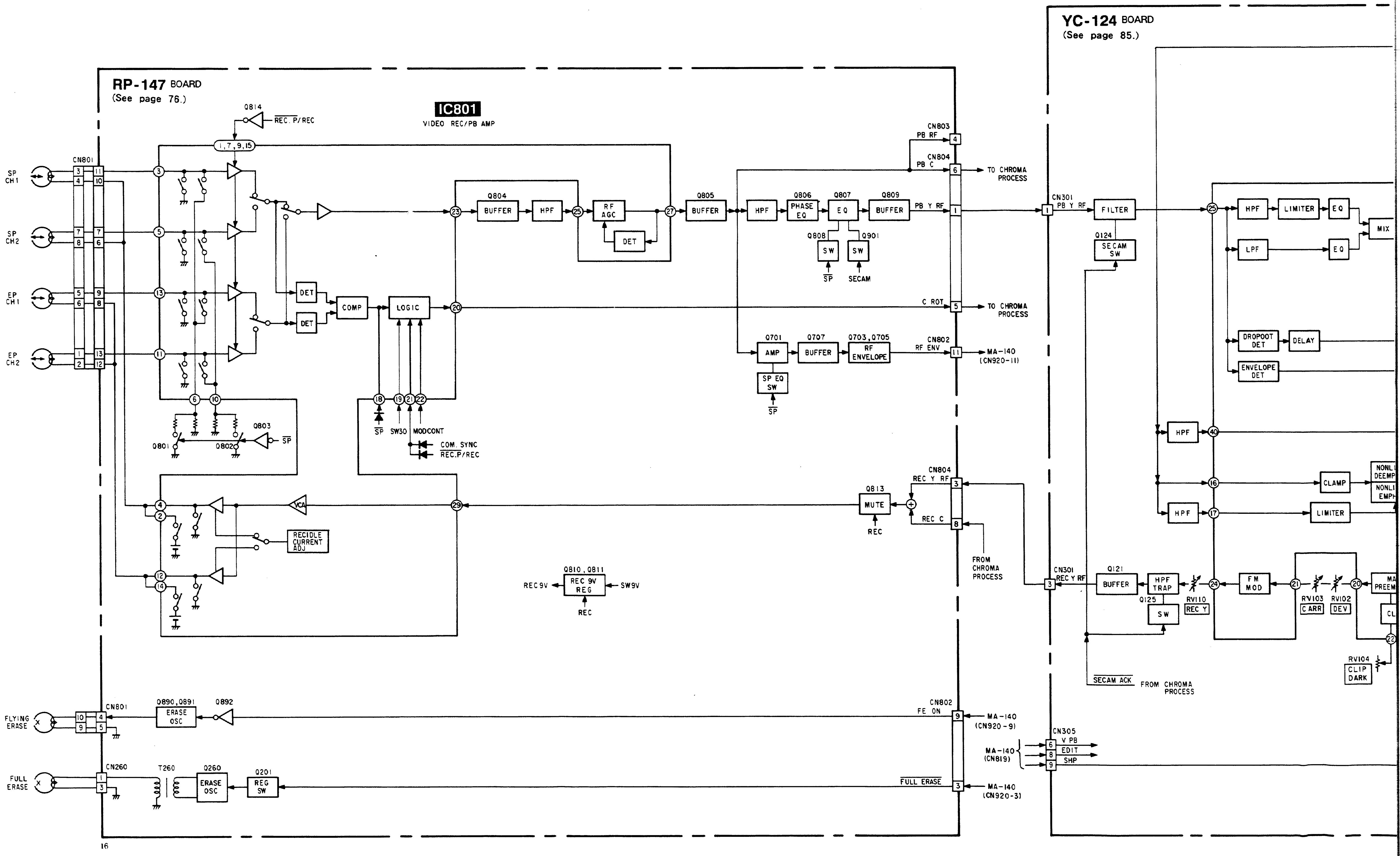

CAPSTAN MOTOR
MD-58
(Mechanism Sensor)
POWER SUPPLY
HF-26
(Hi-Fi Audio)
CN-62
(Video/Audio Interface)
RF501
(RF Modulator)
SLAED MOTOR
IF501
(IF Modulator)
MA-140
(Servo, System control,
Mechanism Drive, AMP)
SWTCH BLOCK
TU501
(Tuner)
VP-33
(Servo/System control Microproccesor)
CG-15
(Display Controller)

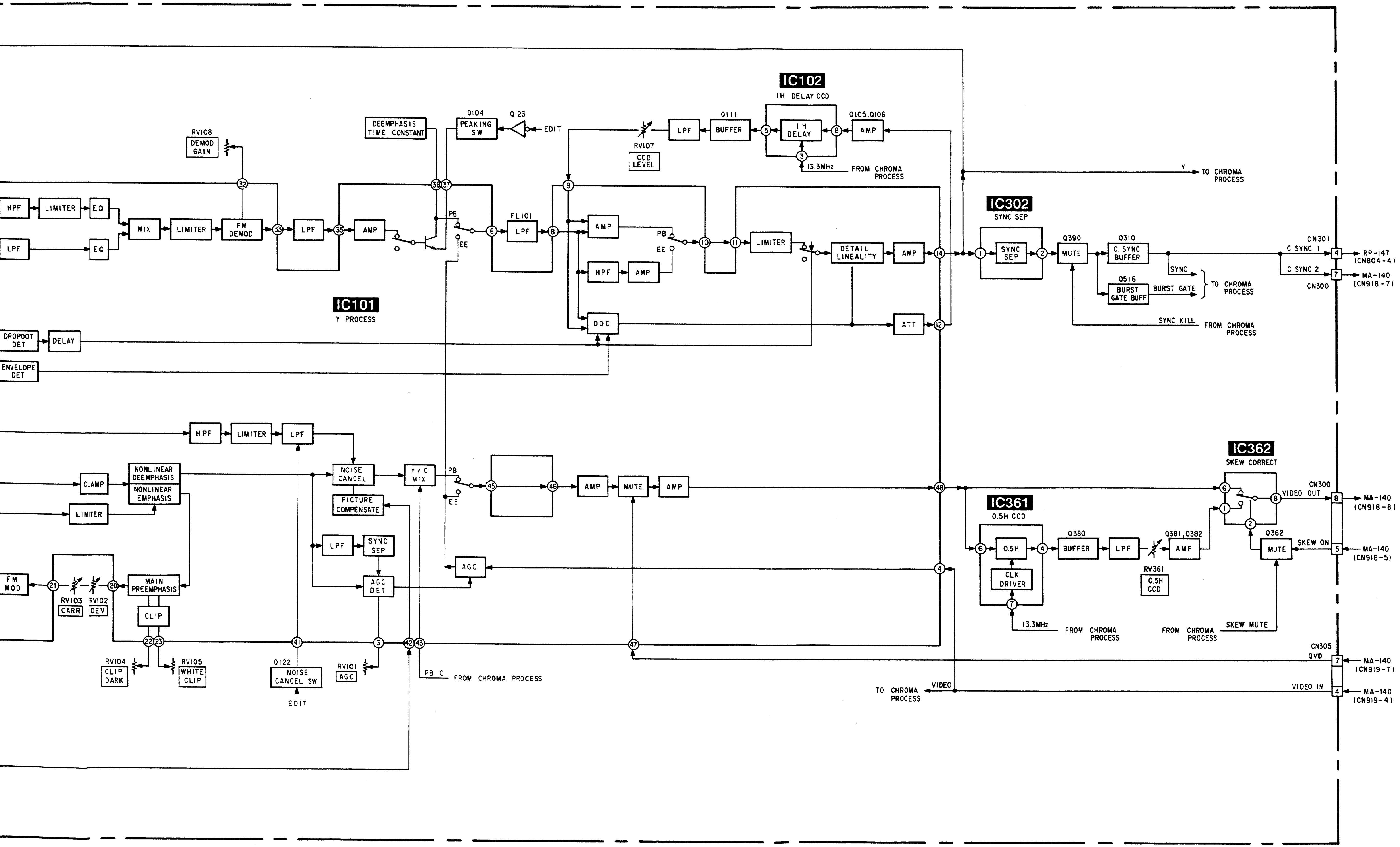
3-2. OVER ALL BLOCK DIAGRAM


MA-140 BOARD
(See page 104, 107, 111.)
TUNER
PLL DATA
PLL CLK
VI-116 BOARD
(See page 89.)
IC502
TUNER
LINE 3
IC501
CNJ902
EURO-AV (LINE 1)
VIDEO
LINE-1
AUDIO
LINE-1(L)
AUDIO
LINE-1(R)
CN-62
BOARD
(See page 89.)
CNJ 101
EURO-AV (LINE 3)
VC MODEL
CANEL PLUS
NP MODEL
PAY TV DECODER
VIDEO
LINE-3
AUDIO
LINE-3(L)
AUDIO
LINE-3(R)
YC-124 BOARD
(See page 85.)
IC101
EE/REC
PB Y RF
Y-PROCESS
IC301
PAL
C-PROCESS
PB C
PB C RF
B MODEL
IC401
CECAM
C-PROCESS
PB C
REC Y
Y+C
REC C
PAL
CNJ303
VIDEO
LINE 2
LINE IN 2
L
R
AUDIO
LINE-1
LINE-3
LINE-2
IC201
AUDIO
SWITCH
NORMAL AUDIO
CNJ301
MIC
MIC
(PLUG IN POWER)
HI FI AUDIO(L)
HI FI AUDIO(R)
HF-26 BOARD
(See page 125.)
IC201
AFM
MOD/DEMOD
AUDIO LINE OUT (R)
AUDIO LINE OUT (L)
NORMAL AUDIO OUT
NORMAL AUDIO REC SIGNAL
IC701
NORMAL AUDIO
REC/PB AMP
STATIONARY
AUDIO
REC/PB
HEAD
STATIONARY
ERASE
HEAD
BIA
16

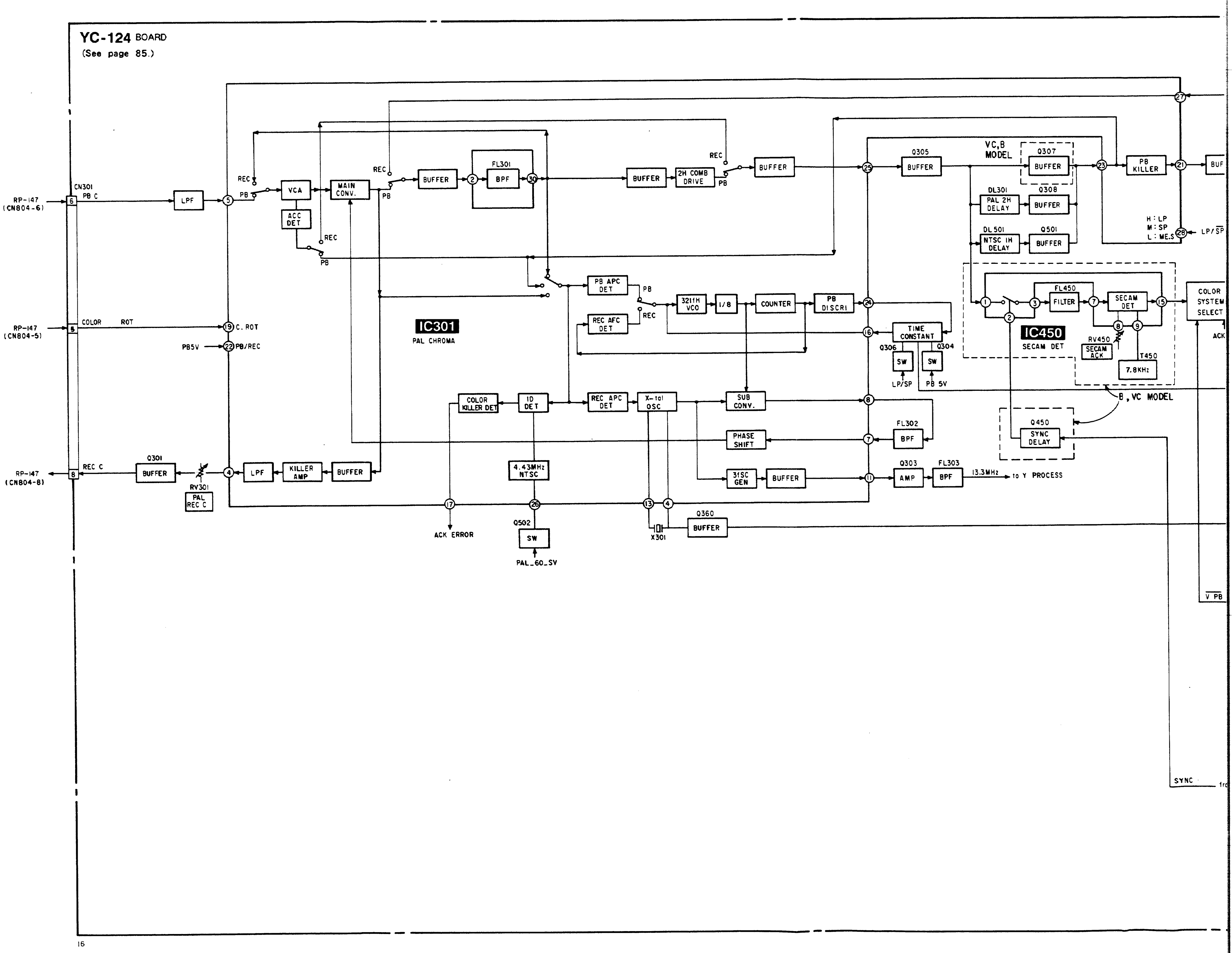

VIDEO HEAD
IC801
REC/PB AMP
REC Y
Y+C
PB Y RF
PB C RF
REC C PAL
(See page 76.)
RP-147 BOARD
VIDEO OUT
CNJ902 EURO-AV (LINE I)
L-CH OUT
R-CH OUT
CNJ901
VIDEO OUT
VIDEO
LINE OUT
L
R
AUDIO
RP-147 BOARD
(See page 76.)
IC260
FM AUDIO REC/PB AMP
AUDIO REC
PB
PB AUDIO
ROTARY HEAD REC/PB
FM AUDIO CH-1
FM AUDIO CH-2
MF-170 BOARD (2/2)
(See page 128.)
(L)
(R)
CNJ302
PHONES
STATIONARY AUDIO REC/PB HEAD
STATIONARY ERASE HEAD
T701, Q701
BIAS/ERASE OSC
IC401
DRUM PG
DRUM FG
DRIVER
DRUM MOTOR
IC402
CTL HEAD
CTL HEAD CONTROL
CAPSTAN FG
DRIVER
CAPSTAN MOTOR
SERVO/ SYSTEM CONTROL
SUPPLY END SENSOR
TAKE-UP END SENSOR
SUPPLY REEL SENSOR
TAKE-UP REEL SENSOR
CASSETTE UP/DOWN
REC PROOF
CAM ROTARY ENCODER
IC404
DRIVER
CAM MOTOR
LOADING MOTOR
POWER SUPPLY BLOCK
DC +35V
UNSW +12V
SW 9V
UNSW 6V
SW 5V
MTR 12V
MTR 12V
SW 5V
UNSW 6V
DC −30V
DC 6V
DC 0V
POWER SUPPLY
AC IN
POWER ON
MF-167 BOARD
(See page 135.)
IC605
IC601
POWER ON
SIRCS
SO BUS
SI BUS
VPS CS
TIMER/ TUNER MODE CONTROL
PLL DATA
PLL CLK
BUZZER
DISPLAY
I/O
ADO～AD3
AD4～AD6
SWITCH BLOCK
(See page 71.)
IC1
KEY MATRIX
SHUTTLE JOG
LAMP
MF-169 BOARD
(See page 128.)
MODE SWITCH
MF-170 BOARD (1/2)
(See page 128.)
CNJ304
CONTROL L

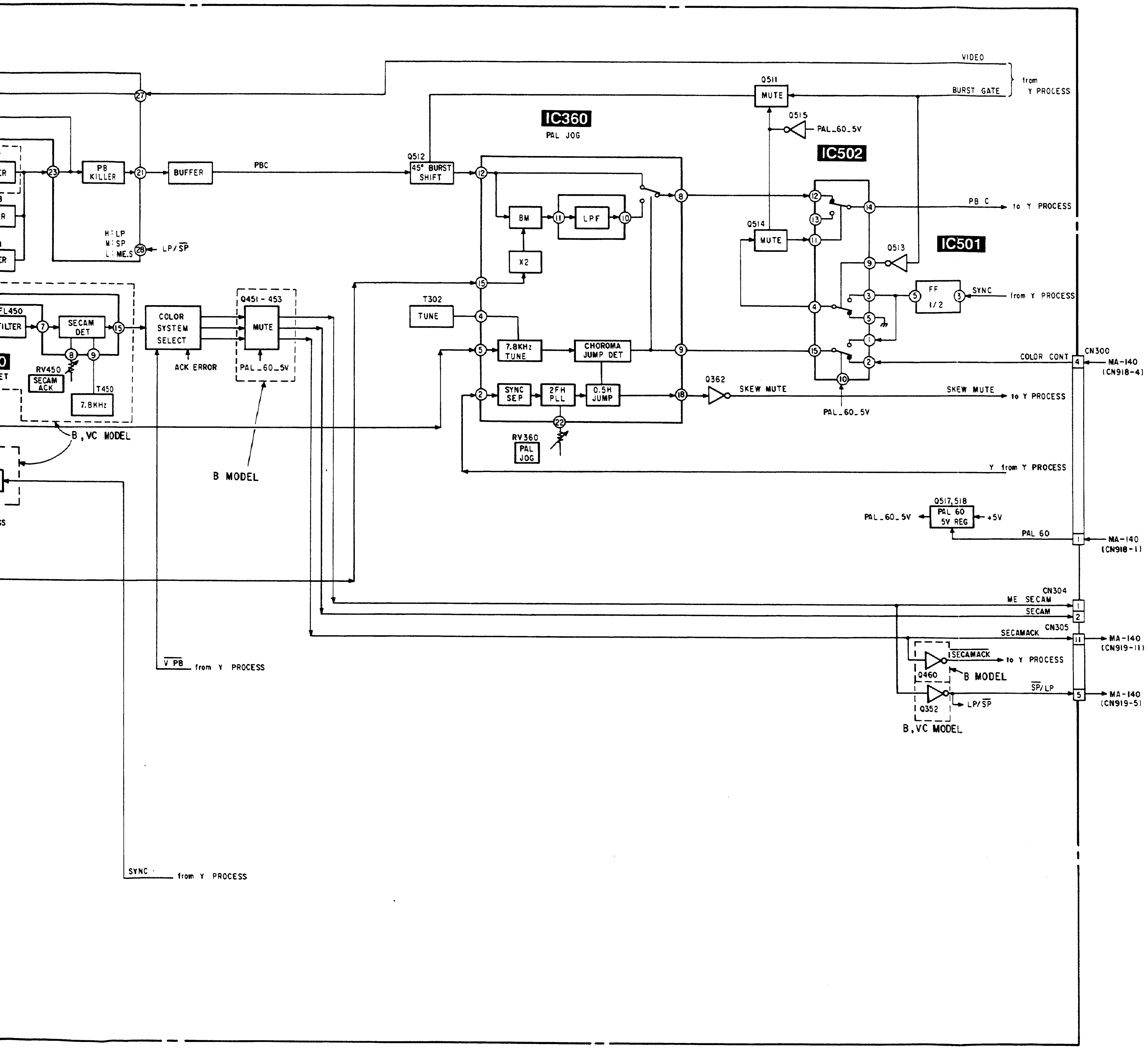
3-3. VIDEO (1) BLOCK DIAGRAM


RP-147 BOARD
(See page 76.)
IC801
VIDEO REC/PB AMP
Q814
REC P/REC
1,7,9,15
CN801
SP CH1
SP CH2
EP CH1
EP CH2
Q804
BUFFER
HPF
RF AGC
DET
Q805
BUFFER
HPF
Q806
PHASE EQ
Q807
EQ
Q809
BUFFER
Q808
SW
SP
Q901
SW
SECAM
DET
DET
COMP
LOGIC
SP
SW30
MODCONT
COM. SYNC
REC.P/REC
Q801
Q802
Q803
SP
CN803
PB RF
CN804
PB C
TO CHROMA PROCESS
PB Y RF
C ROT
TO CHROMA PROCESS
Q701
AMP
Q707
BUFFER
Q703,Q705
RF ENVELOPE
CN802
RF ENV
MA-140
(CN920-11)
SP EQ SW
SP
VCA
RECIDLE CURRENT ADJ
CN804
REC Y RF
Q813
MUTE
REC
REC C
FROM CHROMA PROCESS
Q810,Q811
REC 9V REG
REC9V
SW9V
REC
FLYING ERASE
CN801
Q890,Q891
ERASE OSC
Q892
CN802
FE ON
MA-140
(CN920-9)
FULL ERASE
CN260
T260
Q260
ERASE OSC
Q201
REG SW
FULL ERASE
MA-140
(CN920-3)
16
YC-124 BOARD
(See page 85.)
CN301
PB Y RF
FILTER
Q124
SECAM SW
HPF
LIMITER
EQ
MIX
LPF
EQ
DROPOOT DET
DELAY
ENVELOPE DET
HPF
CLAMP
NONL DEEMP
NONL EMPH
HPF
LIMITER
CN301
REC Y RF
Q121
BUFFER
HPF TRAP
Q125
SW
RV110
REC Y
FM MOD
RV103
CARR
RV102
DEV
MA PREEM
CL
RV104
CLIP DARK
SECAM ACK
FROM CHROMA PROCESS
CN305
V PB
EDIT
SHP
MA-140
(CN819)

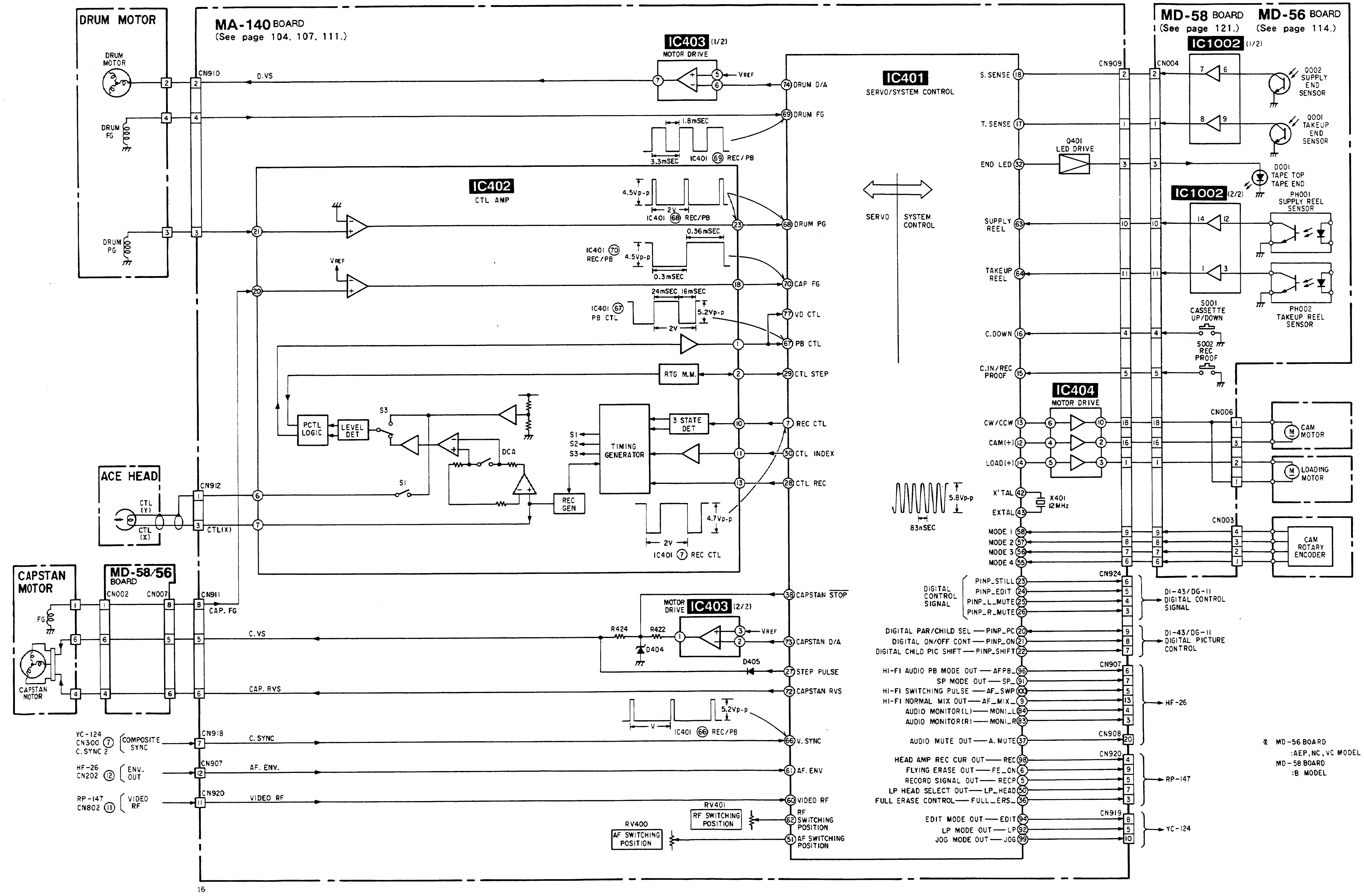

IC102
1H DELAY CCD
IC101
Y PROCESS
IC302
SYNC SEP
IC362
SKEW CORRECT
IC361
0.5H CCD
RV108
DEMOD GAIN
DEEMPHASIS TIME CONSTANT
Q104
PEAKING SW
Q123
EDIT
RV107
CCD LEVEL
LPF
Q111
BUFFER
1H DELAY
Q105,Q106
AMP
13.3MHz
FROM CHROMA PROCESS
Y
TO CHROMA PROCESS
HPF
LIMITER
EQ
MIX
LIMITER
FM DEMOD
LPF
AMP
PB
EE
FL101
LPF
AMP
HPF
AMP
DOC
LIMITER
DETAIL LINEALITY
AMP
ATT
SYNC SEP
Q390
MUTE
Q310
C. SYNC BUFFER
Q516
BURST GATE BUFF
SYNC
BURST GATE
TO CHROMA PROCESS
SYNC KILL
FROM CHROMA PROCESS
CN301
C SYNC 1
C SYNC 2
CN300
RP-147 (CN804-4)
MA-140 (CN918-7)
DROPOUT DET
DELAY
ENVELOPE DET
HPF
LIMITER
LPF
CLAMP
NONLINEAR DEEMPHASIS
NONLINEAR EMPHASIS
LIMITER
NOISE CANCEL
PICTURE COMPENSATE
Y/C MIX
PB
EE
AMP
MUTE
AMP
LPF
SYNC SEP
AGC DET
AGC
FM MOD
RV103 CARR
RV102 DEV
MAIN PREEMPHASIS
CLIP
RV104 CLIP DARK
RV105 WHITE CLIP
Q122
NOISE CANCEL SW
EDIT
RV101 AGC
PB C
FROM CHROMA PROCESS
VIDEO OUT
CN300
MA-140 (CN918-8)
0.5H
CLK DRIVER
Q380
BUFFER
LPF
RV361
0.5H CCD
Q381,Q382
AMP
Q362
MUTE
SKEW ON
MA-140 (CN918-5)
13.3MHz
FROM CHROMA PROCESS
FROM CHROMA PROCESS
SKEW MUTE
CN305
QVD
MA-140 (CN919-7)
VIDEO
TO CHROMA PROCESS
VIDEO IN
MA-140 (CN919-4)

3-4. VIDEO (2) BLOCK DIAGRAM


YC-124 BOARD
(See page 85.)
RP-147 (CN804-6)
RP-147 (CN804-5)
RP-147 (CN804-8)
CN301
PB C
COLOR ROT
REC C
6
5
8
LPF
C. ROT
PB5V
PB/REC
REC
PB
VCA
ACC DET
MAIN CONV.
BUFFER
FL301
BPF
2H COMB DRIVE
IC301
PAL CHROMA
PB APC DET
REC AFC DET
321fH VCO
1/8
COUNTER
PB DISCRI
TIME CONSTANT
Q306
Q304
SW
LP/SP
PB 5V
COLOR KILLER DET
ID DET
REC APC DET
X-tal OSC
SUB CONV.
PHASE SHIFT
31SC GEN
4.43MHz NTSC
Q502
PAL_60_SV
ACK ERROR
Q301
RV301
PAL REC C
KILLER AMP
X301
Q360
FL302
Q303
AMP
FL303
13.3MHz
to Y PROCESS
Q305
VC,B MODEL
Q307
DL301
PAL 2H DELAY
Q308
DL501
NTSC 1H DELAY
Q501
PB KILLER
BUF
H : LP
M : SP
L : ME.S
LP/SP
FL450
FILTER
SECAM DET
IC450
RV450
SECAM ACK
T450
7.8KHz
COLOR SYSTEM SELECT
ACK
B, VC MODEL
Q450
SYNC DELAY
V PB
SYNC
16


IC360
PAL JOG
IC502
IC501
VIDEO
BURST GATE
from Y PROCESS
Q511
MUTE
Q515
PAL_60_5V
PB KILLER
BUFFER
PBC
Q512
45° BURST SHIFT
BM
LPF
X2
H: LP
M: SP
L: ME.S
LP/SP
PB C
to Y PROCESS
Q514
MUTE
Q513
FF 1/2
SYNC
from Y PROCESS
FL450
FILTER
SECAM DET
RV450
SECAM ACK
T450
7.8KHz
COLOR SYSTEM SELECT
ACK ERROR
Q451 - 453
MUTE
PAL_60_5V
T302
TUNE
7.8KHz TUNE
CHOROMA JUMP DET
SYNC SEP
2FH PLL
0.5H JUMP
RV360
PAL JOG
Q362
SKEW MUTE
SKEW MUTE
to Y PROCESS
PAL_60_5V
COLOR CONT
CN300
MA-140 (CN918-4)
B, VC MODEL
B MODEL
Y from Y PROCESS
Q517, 518
PAL 60 5V REG
PAL_60_5V
+5V
PAL 60
MA-140 (CN918-1)
CN304
ME SECAM
SECAM
SECAMACK
CN305
MA-140 (CN919-11)
SECAMACK
to Y PROCESS
Q460
B MODEL
SP/LP
MA-140 (CN919-5)
Q352
LP/SP
B, VC MODEL
V PB from Y PROCESS
SYNC from Y PROCESS

3-5. SERVO SYSTEM CONTROL BLOCK DIAGRAM


DRUM MOTOR
DRUM MOTOR
DRUM FG
DRUM PG
MA-140 BOARD
(See page 104, 107, 111.)
CN910
D.VS
IC403 (1/2)
MOTOR DRIVE
VREF
74 DRUM D/A
69 DRUM FG
1.8mSEC
3.3mSEC
IC401 69 REC/PB
IC402
CTL AMP
4.5Vp-p
2V
IC401 68 REC/PB
68 DRUM PG
0.36mSEC
IC401 70 REC/PB
0.3mSEC
70 CAP FG
24mSEC 16mSEC
IC401 67 PB CTL
5.2Vp-p
77 VD CTL
67 PB CTL
RTG M.M.
29 CTL STEP
PCTL LOGIC
LEVEL DET
S3
DCA
S1
3 STATE DET
S1
S2
S3
TIMING GENERATOR
7 REC CTL
30 CTL INDEX
28 CTL REC
REC GEN
4.7Vp-p
IC401 7 REC CTL
ACE HEAD
CN912
CTL (Y)
CTL (X)
CTL(X)
CAPSTAN MOTOR
FG
CAPSTAN MOTOR
MD-58/56 BOARD
CN002
CN007
CN911
CAP. FG
C.VS
CAP. RVS
38 CAPSTAN STOP
MOTOR DRIVE
IC403 (2/2)
R424
R422
D404
D405
73 CAPSTAN D/A
27 STEP PULSE
72 CAPSTAN RVS
IC401 66 REC/PB
66 V. SYNC
YC-124 CN300 7 C.SYNC 2
COMPOSITE SYNC
CN918
C. SYNC
HF-26 CN202 12
ENV. OUT
CN907
AF. ENV.
61 AF. ENV
RP-147 CN802 11
VIDEO RF
CN920
VIDEO RF
60 VIDEO RF
RV401
RF SWITCHING POSITION
62 RF SWITCHING POSITION
RV400
AF SWITCHING POSITION
51 AF SWITCHING POSITION
16
IC401
SERVO/SYSTEM CONTROL
SERVO
SYSTEM CONTROL
S. SENSE 18
T. SENSE 17
Q401 LED DRIVE
END LED 32
SUPPLY REEL 63
TAKEUP REEL 64
C.DOWN 16
C.IN/REC PROOF 15
IC404
MOTOR DRIVE
CW/CCW 13
CAM(+) 12
LOAD(+) 14
5.8Vp-p
83nSEC
X'TAL 42
EXTAL 43
X401 12MHz
MODE 1 58
MODE 2 57
MODE 3 56
MODE 4 55
CN909
MD-58 BOARD
(See page 121.)
MD-56 BOARD
(See page 114.)
CN004
IC1002 (1/2)
Q002 SUPPLY END SENSOR
Q001 TAKEUP END SENSOR
D001 TAPE TOP TAPE END
IC1002 (2/2)
PH001 SUPPLY REEL SENSOR
PH002 TAKEUP REEL SENSOR
S001 CASSETTE UP/DOWN
S002 REC PROOF
CN006
CAM MOTOR
LOADING MOTOR
CN003
CAM ROTARY ENCODER
CN924
DIGITAL CONTROL SIGNAL
PINP_STILL 23
PINP_EDIT 24
PINP_L_MUTE 25
PINP_R_MUTE 26
DI-43/DG-11 DIGITAL CONTROL SIGNAL
DIGITAL PAR/CHILD SEL — PINP_PC 20
DIGITAL ON/OFF CONT — PINP_ON 21
DIGITAL CHILD PIC SHIFT — PINP_SHIFT 22
DI-43/DG-11 DIGITAL PICTURE CONTROL
CN907
HI-FI AUDIO PB MODE OUT — AFPB 95
SP MODE OUT — SP 91
HI-FI SWITCHING PULSE — AF_SWP 00
HI-FI NORMAL MIX OUT — AF_MIX 9
AUDIO MONITOR(L) — MONI_L 84
AUDIO MONITOR(R) — MONI_R 83
HF-26
CN908
AUDIO MUTE OUT — A. MUTE 37
CN920
HEAD AMP REC CUR OUT — REC 98
FLYING ERASE OUT — FE_ON 6
RECORD SIGNAL OUT — RECP 5
LP HEAD SELECT OUT — LP_HEAD 50
FULL ERASE CONTROL — FULL_ERS 36
RP-147
CN919
EDIT MODE OUT — EDIT 94
LP MODE OUT — LP 92
JOG MODE OUT — JOG 99
YC-124
※ MD-56 BOARD :AEP, NC, VC MODEL
MD-58 BOARD :B MODEL

3-6. SYST

• IC401 C

Signa
RF_SWP
QVD
QHD_ENBLE
AF_RECP_
RECP
FE_ON
REC_CTL
SYNC_PLS
AF_MIX_
NA_RECP_
NAP B
CAM
CW
LOAD
C_IN/REC_
C_DOWN_
T_SENS
S_SENS
COLOR_CON
PINP_PC
PINP_ON
PINP_SHIF
PINP_STIL
PINP_EDIT
PINP_L_MU
PINP_R_MU
STEP_PLS_
CTL_REC
CTL_STEP
CTL_INDEX
AV_CTRL
END_LED
CAP_TRQ2
CAP_TRQ1
NA_MUTE
FULL_ERS_
A_MUTE
CAPSTOP_
METER_L
METER_R
LP_HEAD
AFSW_POS
MODE4
MODE3
MODE2
MODE1
NC

3-6. SYSTEM CONTROL MICROCOMPUTER PORT FUNCTIONS DESCRIPTION

- **IC401 CXP80724-040Q**

Signal	I/O	Pin No.	Description
RF_SWP	O	1	RF switching pulse
QVD	O	2	Quasi VD
QHD_ENBLE	O	3	Quasi HD voltage level control
AF_RECP_	O	4	Hi-fi record control
RECP	O	5	Record signal
FE_ON	O	6	Flying erase
REC_CTL	I/O	7	REC. CTL
SYNC_PLS	O	8	Pulse for V sync communication
AF_MIX_	O	9	Hi-fi/normal mix
NA_RECP_	O	10	Normal audio recording signal
NAP B	O	11	Normal audio playback mode
CAM	O	12	Cam motor selection
CW	O	13	Motor rotation direction control
LOAD	O	14	Loading motor selection
C_IN/REC_PRF	I	15	Cassette-IN. Claw broken detect switch input
C_DOWN_	I	16	Cassette compartment down switch input
T_SENS	I	17	Tape-top sensor input
S_SENS	I	18	Tape-end sensor input
COLOR_CONT	O	19	PAL jog control
PINP_PC	*I/O	20	Not use
PINP_ON	O	21	Not use
PINP_SHIFT	O	22	Not use
PINP_STILL	O	23	Not use
PINP_EDIT	O	24	Not use
PINP_L_MUTE	O	25	Not use
PINP_R_MUTE	O	26	Not use
STEP_PLS_	O	27	Step pulse
CTL_REC	O	28	CTL amp record inhibit
CTL_STEP	O	29	CTL amp step control
CTL_INDEX	O	30	CTL amp index control
AV_CTRL	O	31	(C+) TV/video select
END_LED	O	32	Top end sensor detect lamp
CAP_TRQ2	O	33	Capstan current limiter-2
CAP_TRQ1	O	34	Capstan current limiter-1
NA_MUTE	O	35	Normal audio mute
FULL_ERS_	O	36	Full erase control
A_MUTE	O	37	Audio mute
CAPSTOP_	O	38	Capstan motor stop
METER_L	I	48	Level meter L-ch input
METER_R	I	49	Level meter R-ch input
LP_HEAD	O	50	LP head selection
AFSW_POS	I	51	Hi-fi switching position adj.
MODE4	I	55	Cam encoder data-4
MODE3	I	56	Cam encoder data-3
MODE2	I	57	Cam encoder data-2
MODE1	I	58	Cam encoder data-1
NC	I	59	

Signal	I/O	Pin No.	Description
RF_ENV	I	60	Video playback signal envelope
AF_ENV	I	61	Hi-fi audio playback signal envelope
SW_POS	I	62	Head switching position adj.
SREEL_FG	I	63	S-side reel FG input
TREEL_FG	I	64	T-side reel FG input
NC	I	65	
V_SYNC	I	66	Composite sync input
PB_CTL	I	67	Servo CTL input
DRM_PG	I	68	Drum PG input
DRM_FG	I	69	Drum FG input
CAP_FG	I	70	Capstan FG input
TA_MUTE	O	71	Tuner audio mute
CAPRVS	O	72	Capstan reverse control
CAP_DA	O	73	Capstan D/A output
DRUM_DA	O	74	Drum D/A output
SKEW_ON	O	75	PAL jog control
SC_ON	O	76	Simultaneous Cast mode
VD_CTL	I	77	CTL counter input
MIC_SW_	I	78	Mic SW input (LOW active)
NORM_CONT1	O	79	Normal audio select function-1
NORM_CONT2	O	80	Normal audio select function-2
LINE1	O	81	Audio input selection-1
LINE2	O	82	Audio input selection-2
MONI_R	O	83	Audio monitor-R
MONI_L	O	84	Audio monitor-L
HEAD_CONT	I/O	85	Head amp control
SP_	O	91	SP mode (LOW active)
LP	O	92	LP mode
V_LINE1	O	93	Video input control-1
EDIT	O	94	Edit mode
VPB_	O	95	Video system playback mode
AFPB_	O	96	Hi-fi audio playback mode
V_LINE2	O	97	Video input control-2
REC	O	98	Head amp record current
JOG	O	99	Jog mode
AF_SWP	O	100	Hi-fi switching pulse

3-10. SYSTEM CONTROL —VIDEO BLOCK INTERFACE—

- **IC401 on MA-140 board.**

SIGNAL	PIN NO.	I/O	STOP/ FF/ REW	TAPE/ THREAD-ING	TAPE UNTHREAD-ING	PB	PB • PAUSE	SLOW	×2	CUE	REVIEW	REC	REC-PAUSE
$\overline{\mathrm{V \cdot PB}}$	95	O	H	H	H	L	L	L	L	L	L	H	H
HEAD CONT	85	O	L	L	L	L	HI-Z (2.5V)	*1	*9	*5	*5	L	L
RF SW P (SW30)	1	O	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
Q VD/V MUTE	2	O	L	L	L	*3	*4	*4	*4	*4	*4	L	L
$\overline{\mathrm{SP}}$	91	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6
SP • 2	92	O	*6	*6	*6	*7	*7	*7	*7	*7	*7	*6	*6
LP	93	O	L	L	L	*7	*7	*7	*7	*7	*7	L	L
REC • P	5	O	L	L	L	L	L	L	L	L	L	L	H
REC	98	O	L	L	L	L	L	L	L	L	L	H	H
V SYNC	66	I	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8
V LINE 1	93	O	} *11										
V LINE 2	97	O											

* 1. In forward direction slow mode :
during tape stop "HI-Z (2.5V)" during tape run (for about 40ms) "L".
In reverse direction slow mode :
during tape stop "HI-Z (2.5V)" during tape run (for about 40ms).
SP mode "H"
EP mode "L"

* 2. Sync with drum revolution. 30 Hz 50% DUTY pulse.

* 3. "L"normaly. "H" : when CTL signal is not played back.

* 4. V cycle "H" pulse.

* 5. According to SP/EP selector. "H" : SP mode, "L" : EP mode.

* 6. According to SP/EP selector. "L" : SP mode, "H" : EP mode.

* 7. According to tape REC mode.

Mode Signal	LINE1	LINE2	EP
$\overline{\mathrm{SP}}$ (Pin(91)pin)	L	H	H
EP (Pin(92)pin)	L	L	H

* 8. Composite sync signal (positive polarity).

* 9. Accroding to SP/EP selector. "H" : SP mode, "HI-Z (2.5V)" : EP mode.

* 11. According to Input selector mode.

Mode Signal	LINE1	LINE2	TUNER LINE3/CT SC
V LINE 1 (Pin(93)pin)	H	L	H
V LINE 2 (Pin(97)pin)	L	L	H

3-11. SYSTEM CONTROL —AUDIO BLOCK INTERFACE—

- **IC401 on MA-140 board.**

SIGNAL	PIN NO.	I/O	STOP/ FF/ REW	TAPE LOADING	TAPE UNLOAD-ING	PB	PB • PAUSE	SLOW	×2	CUE	REVIEW	REC	REC • PAUSE
$\overline{\mathrm{AF\ PB}}$	96	O	H	H	H	H	L	L	L	L	L	L	H
MONI (L)	84	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
MONI (R)	83	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1
AF ENVELOP	61	I	AF RF envelope signal input pin for auto tracking										
NA PB	11	O	L	L	L	H	H	H	H	H	H	L	L
A MUTE	37	O (O.D)	L	L	L	*4	H	H	H	H	H	L	L
$\overline{\mathrm{SP}}$	91	O	*2	*2	*2	*3	*3	*3	*3	*3	*2	*2	*2
NA REC • $\overline{\mathrm{P}}$	10	O	L	L	L	L	L	L	L	L	L	H	L
AF REC$\overline{\mathrm{P}}$	4	O	L	L	L	L	L	L	L	L	L	H	L
AF SWP	100	O	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
AF SW POSITION	51	I	input pin for AF switching position adj.										
SC – ON	76	O	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
MICSW	78	I	mic. input switch (low when input)										
AF MIX	9	O (O.D)	L	L	L	*9	*9	*9	*9	*9	*9	L	L
METER (L)	48	I	input pin for audio level meter (left) display										
METER (R)	49	I	input pin for audio level meter (right) display										
$\overline{\mathrm{FULL\ ERS}}$	36	O (O.D)	H	H	H	H	H	H	H	H	H	L	H
NOR A MUTE	35	O	L	L	L	*4	H	H	H	H	H	L	L
NOR CONT 1	79	O	} *10. normal audio control signal										
NOR CONT 2	80	O											

* 1. Depending upon audio monitor

audio monitor signal	stereo or main/sub left/right	main left	sub right	(normal)
MONI (L) (83)	H	H	L	L
MONI (R) (84)	H	L	H	L

* 2. Depending upon SP/EP selector. SP mode "L", EP mode "H".

* 3. Depending upon recording mode on tape . SP mode "L", EP mode "H".

* 4. "H" when CTL signal is not played back.

* 5. 30Hz, 50% duty pulse after about 5 msec delayed from RF SW P.

* 6. "H" during simul-cast ON.

* 9. "H" when HIFI/NORMAL MIX ON.

* 10.

input signal	bilingual send/receive	others
NOR CONT 1(79)	L	H
NOR CONT 2(99)	H	H

REC-PAUSE
H
L
＊2
L
＊6
＊6
L
H
H
＊8

de,

ER E3/CT
H
H

3-11. SYSTEM CONTROL —AUDIO BLOCK INTERFACE—

• IC401 on MA-140 board.

SIGNAL	PIN NO.	I/O	STOP/FF/REW	TAPE LOADING	TAPE UNLOAD-ING	PB	PB・PAUSE	SLOW	×2	CUE	REVIEW	REC	REC・PAUSE
$\overline{\text{AF PB}}$	96	O	H	H	H	H	L	L	L	L	L	L	H
MONI (L)	84	O	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1
MONI (R)	83	O	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1	＊1
AF ENVELOP	61	I	AF RF envelope signal input pin for auto tracking										
NA PB	11	O	L	L	L	H	H	H	H	H	H	L	L
A MUTE	37	O (O.D)	L	L	L	＊4	H	H	H	H	H	L	L
$\overline{\text{SP}}$	91	O	＊2	＊2	＊2	＊3	＊3	＊3	＊3	＊3	＊2	＊2	＊2
NA REC・$\overline{\text{P}}$	10	O	L	L	L	L	L	L	L	L	L	H	L
AF REC$\overline{\text{P}}$	4	O	L	L	L	L	L	L	L	L	L	H	L
AF SWP	100	O	＊5	＊5	＊5	＊5	＊5	＊5	＊5	＊5	＊5	＊5	＊5
AF SW POSITION	51	I	input pin for AF switching position adj.										
SC – ON	76	O	＊6	＊6	＊6	＊6	＊6	＊6	＊6	＊6	＊6	＊6	＊6
MICSW	78	I	mic. input switch (low when input)										
AF MIX	9	O (O.D)	L	L	L	＊9	＊9	＊9	＊9	＊9	＊9	L	L
METER (L)	48	I	input pin for audio level meter (left) display										
METER (R)	49	I	input pin for audio level meter (right) display										
$\overline{\text{FULL ERS}}$	36	O (O.D)	H	H	H	H	H	H	H	H	H	L	H
NOR A MUTE	35	O	L	L	L	＊4	H	H	H	H	H	L	L
NOR CONT 1	79	O	＊10. normal audio control signal										
NOR CONT 2	80	O											

＊1. Depending upon audio monitor

signal \ audio monitor	stereo or main/sub left/right	main left	sub right	(normal)
MONI (L) (83)	H	H	L	L
MONI (R) (84)	H	L	H	L

＊2. Depending upon SP/EP selector. SP mode "L", EP mode "H".

＊3. Depending upon recording mode on tape . SP mode "L", EP mode "H".

＊4. "H" when CTL signal is not played back.

＊5. 30Hz, 50% duty pulse after about 5 msec delayed from RF SW P.

＊6. "H" during simul-cast ON.

＊9. "H" when HIFI/NORMAL MIX ON.

＊10.

signal \ input	bilingual send/receive	others
NOR CONT 1(79)	L	H
NOR CONT 2(80)	H	H

3-12. SYSTEM CONTROL —TUNER BLOCK INTERFACE—

• IC401 on MA-140 board.

Signal	I/O	Pin No.	Input/output level
$\overline{\text{STEREO}}$	I	21	Tuner audio input pin. "L" in stereo
$\overline{\text{BILING}}$	I	22	Tuner audio input pin. "L" in bilingual
TAMUTE	O	71	Tuner audio mute output. "H" during tuning operation or during tuned to blank channel.
$\overline{\text{F MONO}}$	O (O.D)	31	Tuner audio mute output. "L" during auto stereo OFF.

3-13. SYSTEM CONTROL —RF MODULATION/INPUT SELECTOR BLOCK INTERFACE—

• IC401 on MA-140 board.

Signal	I/O	Pin No.	Input/output level
TV/VTR	I	31	"L" when RF modulator is through mode.
LINE 1	I	81	＊1 input select control signal
LINE 2	I	82	

＊1.

Signal \ Input	Tuner	LINE 1	LINE 2
LINE 1(81)	L	H	L
LINE 2(82)	L	L	H

3-7. SYSTEM CONTROL —SERVO PERIPHERAL CIRCUIT INTERFACE—

- **IC401 on MA-140 board.**

SIGNAL	PIN NO.	I/O	STOP	FF	REW	TAPE/ THREAD-ING	TAPE UNTHREAD-ING	PB	PB • PAUSE	SLOW	×2	CUE	REVIEW	REC	REC-PAUSE	PB INDEX WRT/ERS
REC CTL	7	O	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	
CAP STOP	38	O (O.D)	L	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	L	*3	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	HI-Z (O.D)	
STEP PLS	27	O	L	L	L	L	L	L	L	*2	L	L	L	L	L	
CTC REC	28	O	L	L	L	L	L	L	L	L	L	L	L	H	H	H
INDEX	30	O	L	L	L	L	L	L	L	L	L	L	L	L	L	H
PB CTL	67	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H	
VD CTL	77	I	H	*6	*6			*1	H/L	*2	*6	*6	*6	*1	H	
DRUM PG	68	I	*4	*7	*7	*5	*5	*7	*7	*7	*7	*7	*7	*7	*7	
DRUM FG	69	I	*4	*8	*8	*5	*5	*8	*8	*8	*8	*8	*8	*8	*8	
CAP FG	70	I	H/L	*6	*6	*5	*5	*6	H/L	*9	*6	*6	*6	*6	H/L	
CAP RVS	72	O	H/L	L	H	L	H	L	L	*2	L	L	H	L	L	
CAP DA	73	O	*10	*10	*10	*10	*10	*11	*10	*10	*11	*11	*11	*11	*10	
DRUM DA	74	O	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	
CTL STEP	29	O	L	L	L	L	L	L	L	*13	L	L	L	L	L	

*1. 30Hz pulse.
*2. Tape running pulse.
*3. Inverted logic pulse of STEP PLS
*4. During drum stop "L"
*5. Non periodical pulse.
*6. Cycle pulse proportional to tape speed.
*7. 30Hz pulse.
*8. 360Hz pulse.
*9. Tape running pluse.
*10. Approx. 2 msec cycle "H" or "L" pulse.
*11. Approx. 1.5 msec cycle "H" or "L" pulse.
*12. Approx. 3 msec cycle "H" or "L" pulse.
*13. "H" in FWD direction, during STEP drive mode.

3-8. SYSTEM CONTROL —MECHANISM BLOCK INTERFACE—

- **IC401 on MA-140 board.**

SIGNAL	PIN NO.	I/O	HI-SPEED REW	EJECTED	CASSETTE LOADING	CASSETTE UNLOAD-ING	TAPE/ THREAD-ING	TAPE UNTHREAD-ING	STOP	FF	REW	PB	P PA
CAM *1	12	O	L	L	L	L	H	H	L	L	L	L	
LOAD	14	O	L	L	H	H	L	L	L	L	L	L	
CW/CCW	13	O			H	L	H	L					
MODE 1	58	I	H	L	L	L	H	H	L	H	H	H	
MODE 2	57	I	L	H	H	H	H	H	L	L	L	L	
MODE 3	56	I	H	H	H	H	L	L	L	L	L	H	
MODE 4	55	I	H	H	H	H	H	H	L	H	H	L	
REC PRF	15	I	*2	L	*2	*2	*2	*2	*2	*2	*2	*2	*
C-UP/DOWN	16	I	L	H	H→L	L→H	L	L	L	L	L	L	
T REEL	64	I	*3	H/L	H/L	H/L	H/L	H/L	H/L	*3	*3	*3	H
S REEL	63	O	*3	H/L	H/L	H/L	*3	*3	H/L	*3	*3	*3	H
END LED	32	O (O.D)	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*
CAP TRQ 1	33	O (O.D)	*1							*1	*1		
CAP TRQ 2	34	O (O.D)								*1	*1		
CAP STOP	38	O (O.D)	H	L	L	L	H	H	L	H	H	H	
CAP RVS	72	O	H	H			L	H	H/L	L	H	L	
CAP DA *8	73	O											
T SENS	17	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*
S SENS	18	I	*7	*4	*4	*4	*7	*7	*7	*7	*7	*7	*

*1. "H" : when mechanical mode shifted.
*2. "L" : when erasure protection tab is removed,
"H" : When not removed.
*3. Cycle pulse proportional to reel rotation speed.
*4. Approx. 2 msec cycle "H" pulse.
*6. During tape run, "L" only when CAP RVS is "H"
*7. "L" : normally. 2 msec cycle "H" pulse : when tap
top or end is detected.
*8. Tape running pulse.

3-9. SYSTEM CONTROL —SERVO PERIPHERAL CIRCUIT INTERFACE—

- **IC401 on MA-140 board.**

Signal	I/O	Pin No.	Input/output level
COSMO • RESET	I	40	"H" : normally. "L" : when power failure detected or power failure restored.
COSMO • CS	I	44	Chip select signal from timer micro computer. V cycle "L" pulse.
SI • BUS	I	45	Serial communication data from timer micro computer. V cycle "L" pulse.
SO • BUS	O	46	Serial communication data to timer micro computer. V cycle "L" pulse.
S CLK	I	47	Serial communication clock with timer micro computer. V cycle "L" pulse.

EW	REC	REC-PAUSE	PB INDEX WRT/ERS
1	∗1	∗1	
Z D)	HI-Z (O.D)	HI-Z (O.D)	
	L	L	
	H	H	H
	L	L	H
6	∗1	H	
6	∗1	H	
7	∗7	∗7	
3	∗8	∗8	
6	∗6	H/L	
	L	L	
1	∗11	∗10	
2	∗12	∗12	
	L	L	

e.

3-8. SYSTEM CONTROL —MECHANISM BLOCK INTERFACE—

• IC401 on MA-140 board.

SIGNAL	PIN NO.	I/O	HI-SPEED REW	EJECTED	CASSETTE LOADING	CASSETTE UNLOAD-ING	TAPE/ THREAD-ING	TAPE UNTHREAD-ING	STOP	FF	REW	PB	PB • PAUSE	SLOW	×2	CUE	REVIEW	REC	REC • PAUSE
CAM ∗1	12	O	L	L	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L
LOAD	14	O	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L
CW/CCW	13	O			H	L	H	L											
MODE 1	58	I	H	L	L	L	H	H	L	H	H	H	L	L	H	H	H	H	L
MODE 2	57	I	L	H	H	H	H	H	L	L	L	L	H	H	L	L	L	L	H
MODE 3	56	I	H	H	H	H	L	L	L	L	L	H	H	H	H	H	L	H	H
MODE 4	55	I	H	H	H	H	H	H	L	H	H	L	L	L	L	L	L	L	L
REC PRF	15	I	∗2	L	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2	∗2
C-UP/DOWN	16	I	L	H	H→L	L→H	L	L	L	L	L	L	L	L	L	L	L	L	L
T REEL	64	I	∗3	H/L	H/L	H/L	H/L	H/L	H/L	∗3	∗3	∗3	H/L	∗3	∗3	∗3	∗3	∗3	H/L
S REEL	63	O	∗3	H/L	H/L	H/L	∗3	∗3	H/L	∗3	∗3	∗3	H/L	∗3	∗3	∗3	∗3	∗3	H/L
END LED	32	O (O.D)	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4	∗4
CAP TRQ 1	33	O (O.D)	∗1							∗1	∗1			∗6		∗1	∗1		
CAP TRQ 2	34	O (O.D)								∗1	∗1								
CAP STOP	38	O (O.D)	H	L	L	L	H	H	L	H	H	H	L	∗8	H	H	H	H	L
CAP RVS	72	O	H	H			L	H	H/L	L	H	L	L	L/∗8	L	L	H	L	L
CAP DA ∗8	73	O																	
T SENS	17	I	∗7	∗4	∗4	∗4	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7
S SENS	18	I	∗7	∗4	∗4	∗4	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7	∗7

∗1. "H" : when mechanical mode shifted.

∗2. "L" : when erasure protection tab is removed,
"H" : When not removed.

∗3. Cycle pulse proportional to reel rotation speed.

∗4. Approx. 2 msec cycle "H" pulse.

∗6. During tape run, "L" only when CAP RVS is "H".

∗7. "L" : normally. 2 msec cycle "H" pulse : when tape top or end is detected.

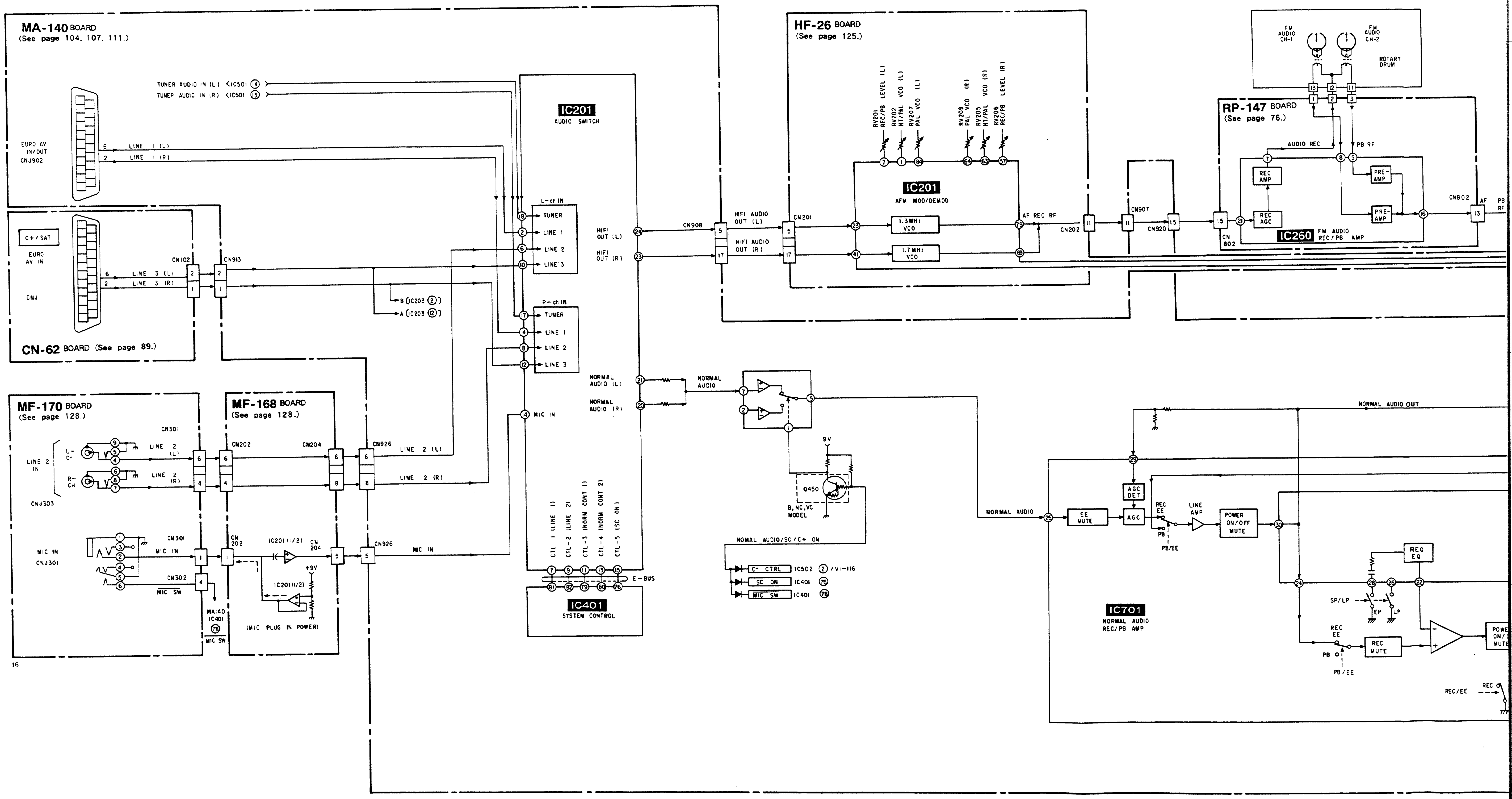
∗8. Tape running pulse.

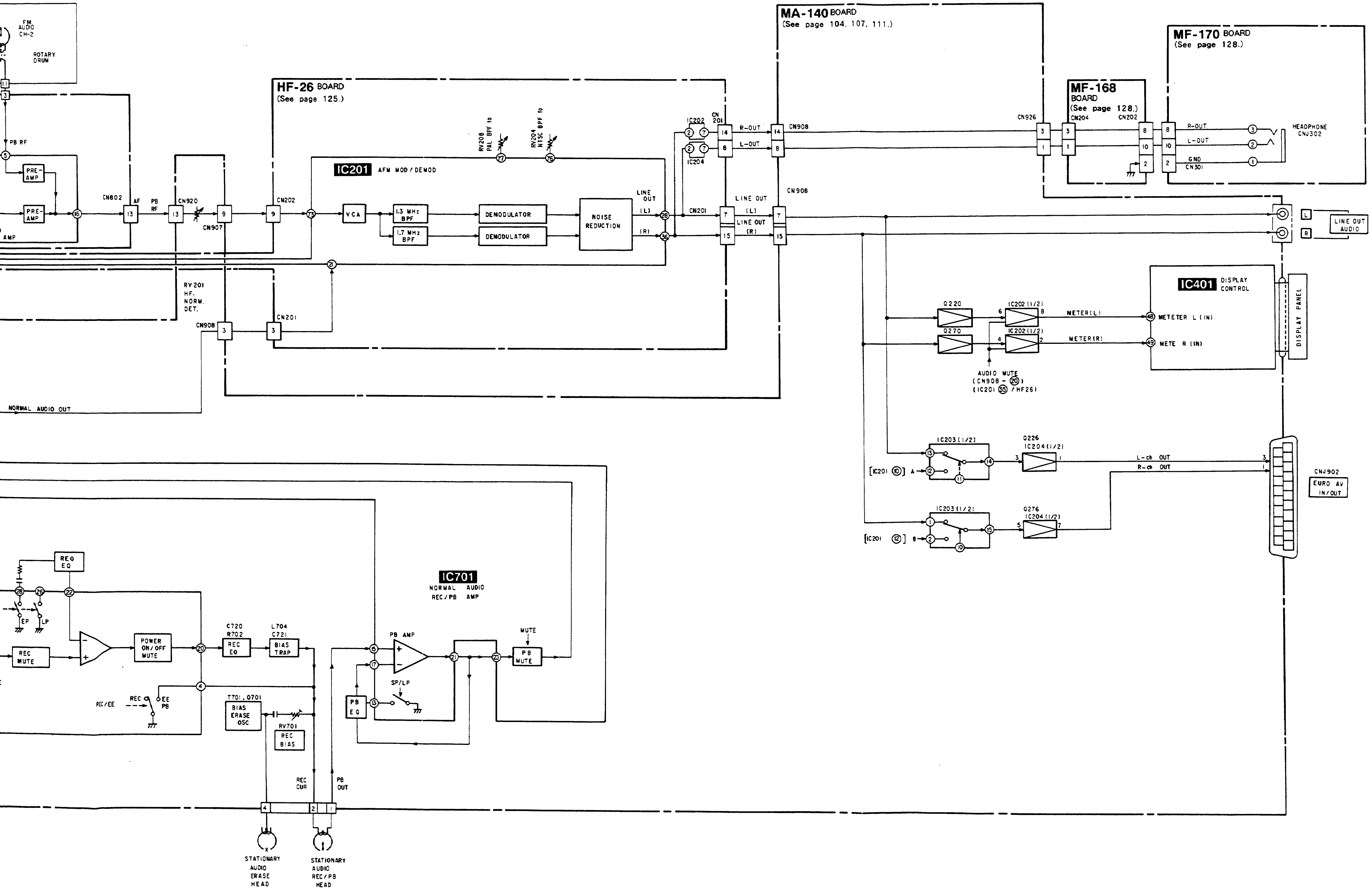
3-9. SYSTEM CONTROL —SERVO PERIPHERAL CIRCUIT INTERFACE—

• IC401 on MA-140 board.

Signal	I/O	Pin No.	Input/output level
$\overline{\text{COSMO • RESET}}$	I	40	"H" : normally. "L" : when power failure detected or power failure restored.
$\overline{\text{COSMO • CS}}$	I	44	Chip select signal from timer micro computer. V cycle "L" pulse.
SI • BUS	I	45	Serial communication data from timer micro computer. V cycle "L" pulse.
SO • BUS	O	46	Serial communication data to timer micro computer. V cycle "L" pulse.
S CLK	I	47	Serial communication clock with timer micro computer. V cycle "L" pulse.

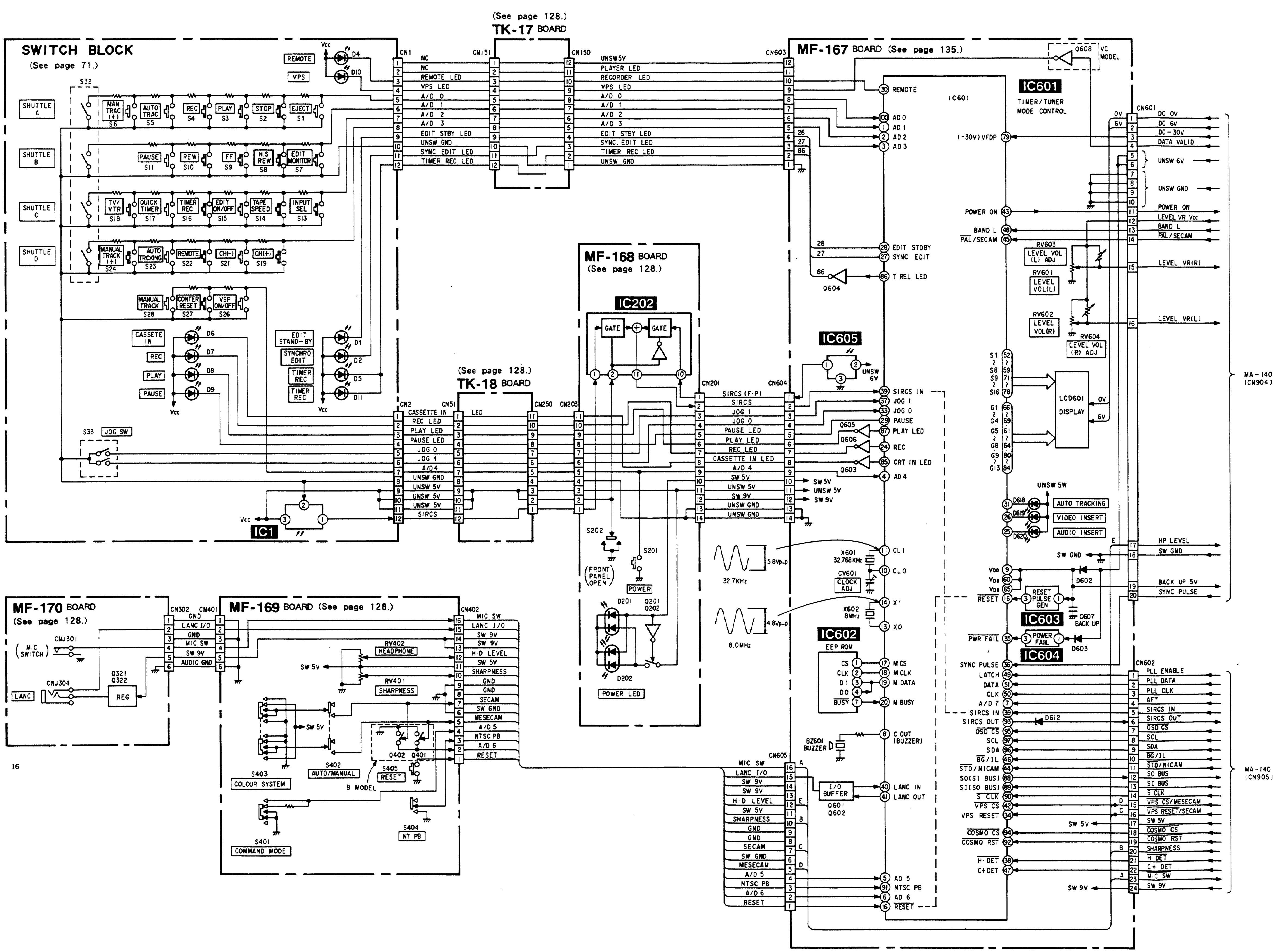
3-14. AUDIO BLOCK DIAGRAM


MA-140 BOARD
(See page 104, 107, 111.)
EURO AV IN/OUT CNJ902
LINE 1 (L)
LINE 1 (R)
TUNER AUDIO IN (L) <IC501 ⑭
TUNER AUDIO IN (R) <IC501 ⑬
IC201
AUDIO SWITCH
L-ch IN
TUNER
LINE 1
LINE 2
LINE 3
R-ch IN
TUNER
LINE 1
LINE 2
LINE 3
MIC IN
HIFI OUT (L)
HIFI OUT (R)
NORMAL AUDIO (L)
NORMAL AUDIO (R)
CN908
C+/SAT
EURO AV IN
CNJ
CN102
CN913
LINE 3 (L)
LINE 3 (R)
B (IC203 ②)
A (IC203 ⑫)
CN-62 BOARD (See page 89.)
MF-170 BOARD
(See page 128.)
LINE 2 IN
L-CH
R-CH
CNJ303
CN301
LINE 2 (L)
LINE 2 (R)
MIC IN
CNJ301
CN302
MIC SW
MA140 IC401 ⑱
MIC SW
16
MF-168 BOARD
(See page 128.)
CN202
CN204
IC201 (1/2)
+9V
(MIC PLUG IN POWER)
CN926
LINE 2 (L)
LINE 2 (R)
MIC IN
CTL-1 (LINE 1)
CTL-2 (LINE 2)
CTL-3 (NORM CONT 1)
CTL-4 (NORM CONT 2)
CTL-5 (SC ON)
E-BUS
IC401
SYSTEM CONTROL
HF-26 BOARD
(See page 125.)
HIFI AUDIO OUT (L)
HIFI AUDIO OUT (R)
CN201
RV201 REC/PB LEVEL (L)
RV202 NT/PAL VCO (L)
RV207 PAL VCO (L)
RV209 PAL VCO (R)
RV205 NT/PAL VCO (R)
RV206 REC/PB LEVEL (R)
IC201
AFM MOD/DEMOD
1.3MHz VCO
1.7MHz VCO
AF REC RF
CN202
CN907
CN920
FM AUDIO CH-1
FM AUDIO CH-2
ROTARY DRUM
RP-147 BOARD
(See page 76.)
AUDIO REC
PB RF
REC AMP
REC AGC
PRE-AMP
PRE-AMP
CN 802
IC260
FM AUDIO REC/PB AMP
CN802
AF PB RF
NORMAL AUDIO
9V
Q450
B, NC, VC MODEL
NOMAL AUDIO/SC/C+ ON
C+ CTRL
IC502 ②/VI-116
SC ON
IC401 ⑯
MIC SW
IC401 ⑱
NORMAL AUDIO
NORMAL AUDIO OUT
EE MUTE
AGC DET
AGC
REC EE
PB
PB/EE
LINE AMP
POWER ON/OFF MUTE
REQ EQ
SP/LP
EP
LP
REC EE
PB
PB/EE
REC MUTE
IC701
NORMAL AUDIO REC/PB AMP
REC/EE
REC

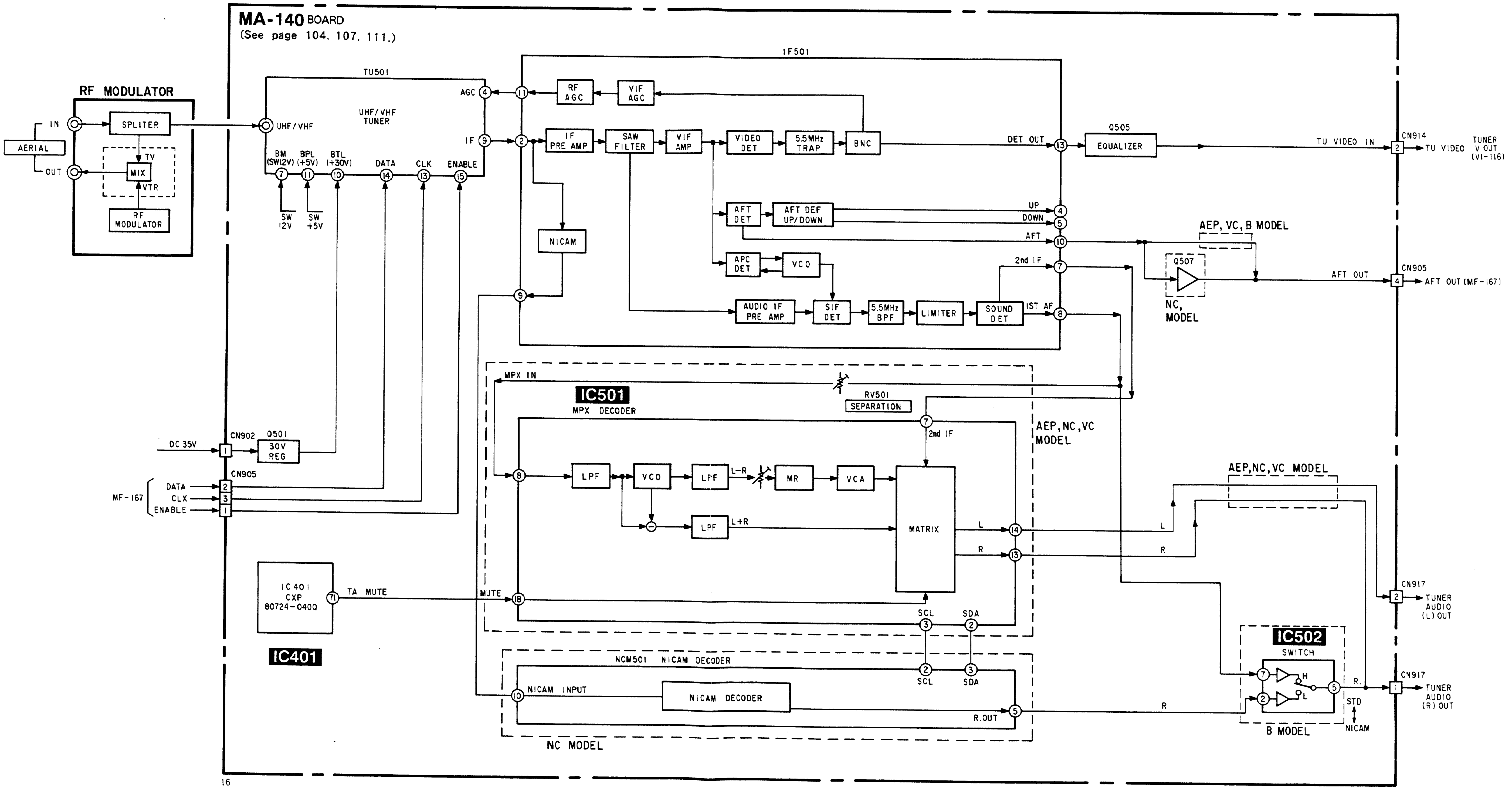

FM AUDIO CH-2
ROTARY DRUM
PB RF
PRE-AMP
PRE-AMP
AMP
CN802
AF
PB RF
CN920
CN907
RV201 HF. NORM. DET.
CN908
NORMAL AUDIO OUT
HF-26 BOARD
(See page 125.)
IC201 AFM MOD/DEMOD
RV208 PAL BPF fo
RV204 NTSC BPF fo
CN202
VCA
1.3 MHz BPF
1.7 MHz BPF
DEMODULATOR
DEMODULATOR
NOISE REDUCTION
LINE OUT (L)
(R)
CN201
IC202
IC204
CN 201
R-OUT
L-OUT
LINE OUT (L)
LINE OUT (R)
MA-140 BOARD
(See page 104, 107, 111.)
CN908
CN926
MF-168 BOARD
(See page 128.)
CN204
CN202
MF-170 BOARD
(See page 128.)
R-OUT
L-OUT
GND
CN301
HEADPHONE CNJ302
LINE OUT AUDIO
IC401 DISPLAY CONTROL
DISPLAY PANEL
Q220
Q270
IC202(1/2)
IC202(1/2)
METER(L)
METER(R)
METETER L (IN)
METE R (IN)
AUDIO MUTE (CN908-20) (IC201 55/HF26)
IC203(1/2)
IC203(1/2)
Q226 IC204(1/2)
Q276 IC204(1/2)
[IC201 10] A
[IC201 12] B
L-ch OUT
R-ch OUT
CNJ902
EURO AV IN/OUT
REQ EQ
EP
LP
REC MUTE
POWER ON/OFF MUTE
REC/EE
REC
EE
PB
C720 R702 REC EQ
L704 C721 BIAS TRAP
T701, Q701 BIAS ERASE OSC
RV701 REC BIAS
REC CUR
PB OUT
IC701 NORMAL AUDIO REC/PB AMP
PB AMP
SP/LP
PB EQ
MUTE
PB MUTE
STATIONARY AUDIO ERASE HEAD
STATIONARY AUDIO REC/PB HEAD

3-15. TIMER TUNER, MODE CONTROL BLOCK DIAGRAM

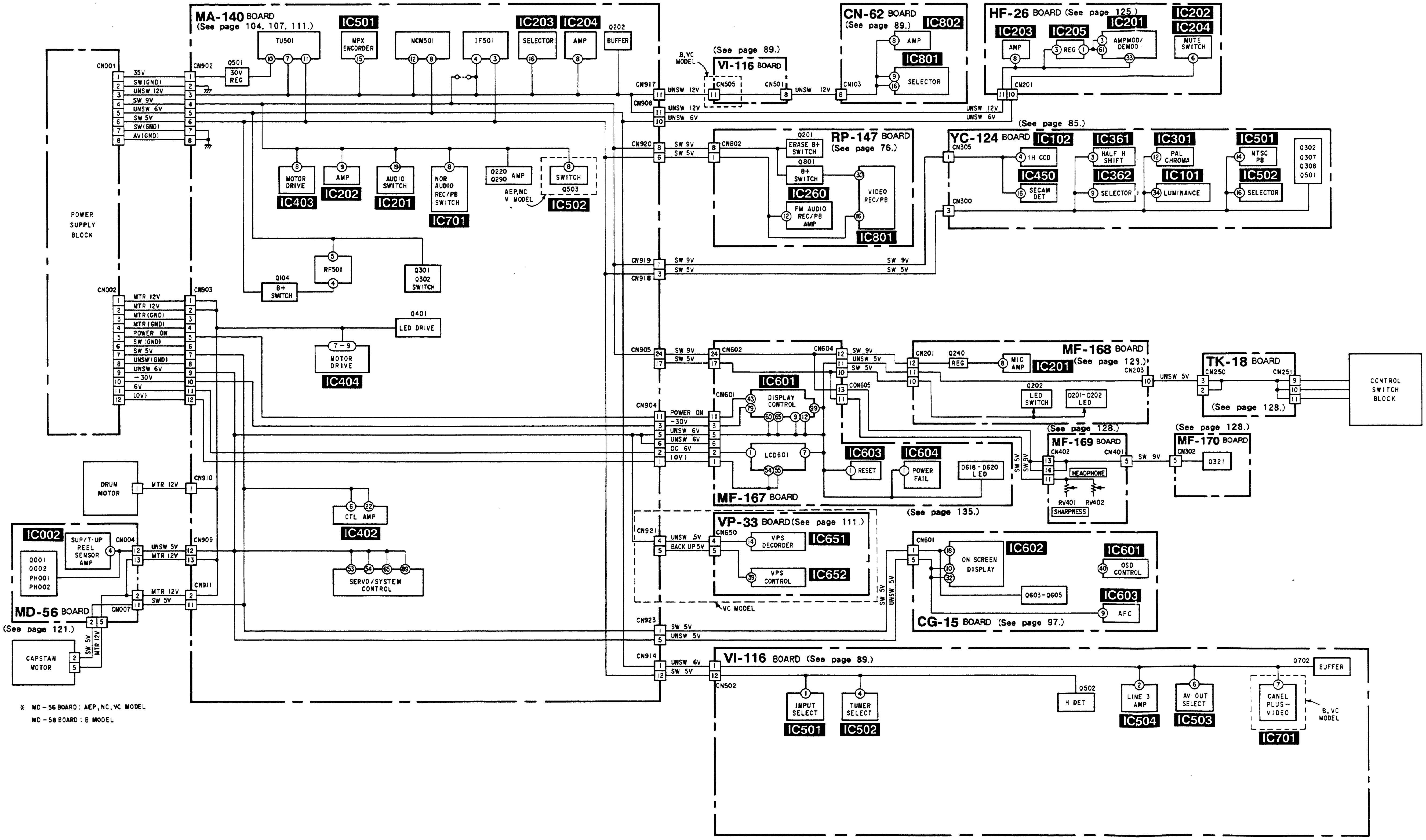
3-16. TUN


SWITCH BLOCK
(See page 71.)
SHUTTLE A
SHUTTLE B
SHUTTLE C
SHUTTLE D
S32
MAN TRAC (+) S6
AUTO TRAC S5
REC S4
PLAY S3
STOP S2
EJECT S1
PAUSE S11
REW S10
FF S9
H.S REW S8
EDIT MONITOR S7
TV/VTR S18
QUICK TIMER S17
TIMER REC S16
EDIT ON/OFF S15
TAPE SPEED S14
INPUT SEL S13
MANUAL TRACK (+) S24
AUTO TRCKING S23
REMOTE S22
CH(-) S21
CH(+) S19
MANUAL TRACK S28
CONTER RESET S27
VSP ON/OFF S26
REMOTE
VPS
D4
D10
CASSETE IN
REC
PLAY
PAUSE
D6
D7
D8
D9
EDIT STAND-BY
SYNCHRO EDIT
TIMER REC
TIMER REC
D1
D2
D5
D11
Vcc
S33 JOG SW
IC1
(See page 128.)
TK-17 BOARD
CN1
CN151
CN150
NC
NC
REMOTE LED
VPS LED
A/D 0
A/D 1
A/D 2
A/D 3
EDIT STBY LED
UNSW GND
SYNC EDIT LED
TIMER REC LED
UNSW5V
PLAYER LED
RECORDER LED
VPS LED
A/D 0
A/D 1
A/D 2
A/D 3
EDIT STBY LED
SYNC EDIT LED
TIMER REC LED
UNSW GND
(See page 128.)
TK-18 BOARD
CN2
CN51
CN250
CN203
LED
CASSETTE IN
REC LED
PLAY LED
PAUSE LED
JOG 0
JOG 1
A/D4
UNSW GND
UNSW 5V
UNSW 5V
UNSW 5V
SIRCS
MF-168 BOARD
(See page 128.)
IC202
GATE
GATE
S202
S201
(FRONT PANEL OPEN)
POWER
D201
Q201 Q202
D202
POWER LED
CN201
CN604
SIRCS (F・P)
SIRCS
JOG 1
JOG 0
PAUSE LED
PLAY LED
REC LED
CASSETTE IN LED
A/D 4
SW 5V
UNSW 5V
SW 9V
UNSW GND
UNSW GND
SW5V
UNSW 5V
SW 9V
MF-167 BOARD (See page 135.)
CN603
Q608
VC MODEL
IC601
TIMER/TUNER MODE CONTROL
REMOTE
AD 0
AD 1
AD 2
AD 3
(-30V) VFDP
POWER ON
BAND L
PAL/SECAM
EDIT STDBY
SYNC EDIT
T REL LED
Q604
IC605
UNSW 6V
SIRCS IN
JOG 1
JOG 0
PAUSE
PLAY LED
REC
CRT IN LED
AD 4
Q605
Q606
Q603
CL I
CL O
X I
X O
X601 32.768KHz
CV601 CLOCK ADJ
X602 8MHz
5.8Vp-p
32.7KHz
4.8Vp-p
8.0MHz
IC602
EEP ROM
CS
CLK
DI
DO
BUSY
M CS
M CLK
M DATA
M BUSY
BZ601 BUZZER
C OUT (BUZZER)
I/O BUFFER
Q601 Q602
LANC IN
LANC OUT
AD 5
NTSC PB
AD 6
RESET
CN605
MIC SW
LANC I/O
SW 9V
SW 9V
H・D LEVEL
SW 5V
SHARPNESS
GND
GND
SECAM
SW GND
MESECAM
A/D 5
NTSC PB
A/D 6
RESET
RV603 LEVEL VOL (L) ADJ
RV601 LEVEL VOL(L)
RV602 LEVEL VOL(R)
RV604 LEVEL VOL (R) ADJ
LCD601 DISPLAY
S1 ~ S8
S9 ~ S16
G1 ~ G4
G5 ~ G8
G9 ~ G13
UNSW 5W
D618 AUTO TRACKING
D619 VIDEO INSERT
D620 AUDIO INSERT
SW GND
VDD
RESET
RESET PULSE GEN
IC603
C607 BACK UP
D602
PWR FAIL
POWER FAIL
IC604
D603
SYNC PULSE
LATCH
DATA
CLK
A/D 7
SIRCS IN
SIRCS OUT
D612
OSD CS
SCL
SDA
BG/IL
STD/NICAM
SO(SI BUS)
SI(SO BUS)
S CLK
VPS CS
VPS RESET
COSMO CS
COSMO RST
H DET
C+DET
SW 5V
SW 9V
CN601
DC 0V
DC 6V
DC -30V
DATA VALID
UNSW 6V
UNSW GND
POWER ON
LEVEL VR Vcc
BAND L
PAL/SECAM
LEVEL VR(R)
LEVEL VR(L)
HP LEVEL
SW GND
BACK UP 5V
SYNC PULSE
MA-140 (CN904)
CN602
PLL ENABLE
PLL DATA
PLL CLK
AFT
SIRCS IN
SIRCS OUT
OSD CS
SCL
SDA
BG/IL
STD/NICAM
SO BUS
SI BUS
S CLK
VPS CS/MESECAM
VPS RESET/SECAM
SW 5V
COSMO CS
COSMO RST
SHARPNESS
H DET
C+ DET
MIC SW
SW 9V
MA-140 (CN905)
MF-170 BOARD
(See page 128.)
CNJ301
(MIC SWITCH)
CNJ304
LANC
Q321 Q322
REG
CN302
CN401
GND
LANC I/O
GND
MIC SW
SW 9V
AUDIO GND
MF-169 BOARD (See page 128.)
CN402
MIC SW
LANC I/O
SW 9V
SW 9V
H・D LEVEL
SW 5V
SHARPNESS
GND
GND
SECAM
SW GND
MESECAM
A/D 5
NTSC PB
A/D 6
RESET
RV402 HEADPHONE
RV401 SHARPNESS
SW 5V
S403 COLOUR SYSTEM
S402 AUTO/MANUAL
Q402 Q401
S405 RESET
B MODEL
S404 NT PB
S401 COMMAND MODE

3-16. TUNER NICAM BLOCK DIAGRAM


MA-140 BOARD
(See page 104, 107, 111.)
RF MODULATOR
AERIAL
IN
OUT
SPLITER
TV
MIX
VTR
RF MODULATOR
TU501
UHF/VHF
UHF/VHF TUNER
AGC
IF
BM (SW12V)
BPL (+5V)
BTL (+30V)
DATA
CLK
ENABLE
SW 12V
SW +5V
IF501
RF AGC
VIF AGC
IF PRE AMP
SAW FILTER
VIF AMP
VIDEO DET
5.5MHz TRAP
BNC
DET OUT
Q505
EQUALIZER
TU VIDEO IN
CN914
TU VIDEO
TUNER V.OUT (VI-116)
NICAM
AFT DET
AFT DEF UP/DOWN
UP
DOWN
AFT
AEP, VC, B MODEL
Q507
NC, MODEL
APC DET
VCO
2nd IF
AFT OUT
CN905
AFT OUT (MF-167)
AUDIO IF PRE AMP
SIF DET
5.5MHz BPF
LIMITER
SOUND DET
IST AF
MPX IN
IC501
MPX DECODER
RV501
SEPARATION
AEP,NC,VC MODEL
LPF
VCO
LPF
L-R
MR
VCA
LPF
L+R
MATRIX
L
R
DC 35V
CN902
Q501
30V REG
CN905
MF-167
DATA
CLX
ENABLE
IC401 CXP 80724-040Q
TA MUTE
MUTE
SCL
SDA
IC401
AEP,NC,VC MODEL
CN917
TUNER AUDIO (L) OUT
NCM501 NICAM DECODER
NICAM INPUT
NICAM DECODER
R.OUT
NC MODEL
IC502
SWITCH
H
L
R.
STD
NICAM
B MODEL
CN917
TUNER AUDIO (R) OUT
16

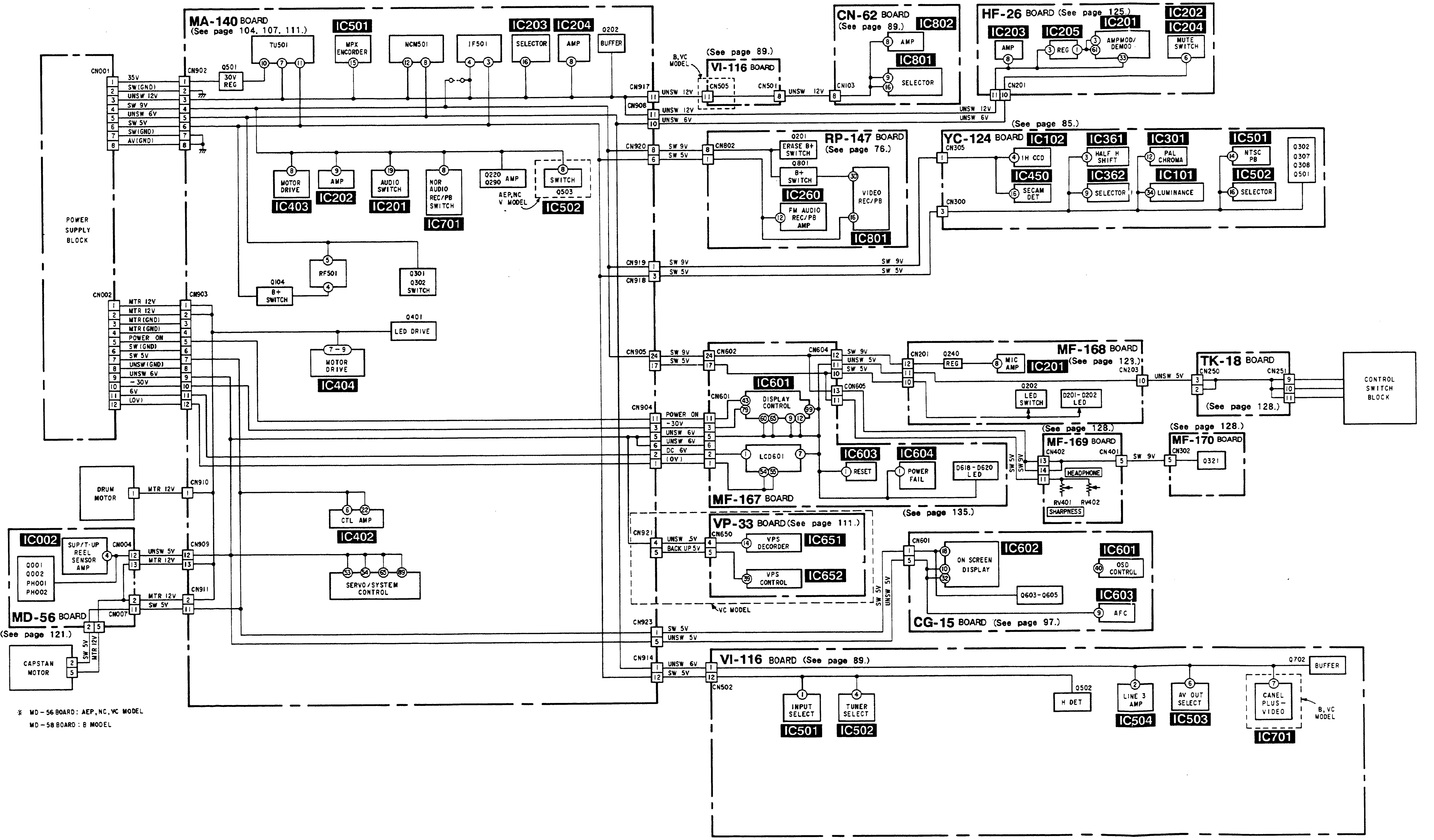
3-17. POWER SUPPLY BLOCK DIAGRAM


MA-140 BOARD
(See page 104, 107, 111.)
POWER SUPPLY BLOCK
CN001
35V
SW(GND)
UNSW 12V
SW 9V
UNSW 6V
SW 5V
SW(GND)
AV(GND)
CN002
MTR 12V
MTR 12V
MTR(GND)
MTR(GND)
POWER ON
SW(GND)
SW 5V
UNSW(GND)
UNSW 6V
-30V
6V
LOV)
CN902
Q501
30V REG
IC501
TU501
MPX ENCORDER
NCM501
IF501
IC203
IC204
SELECTOR
AMP
Q202
BUFFER
MOTOR DRIVE
IC403
AMP
IC202
AUDIO SWITCH
IC201
NOR AUDIO REC/PB SWITCH
IC701
Q220 Q290 AMP
AEP,NC V MODEL
SWITCH
Q503
IC502
RF501
Q104
B+ SWITCH
Q301 Q302 SWITCH
CN903
Q401
LED DRIVE
MOTOR DRIVE
IC404
DRUM MOTOR
MTR 12V
CN910
CTL AMP
IC402
SERVO/SYSTEM CONTROL
IC002
SUP/T-UP REEL SENSOR AMP
Q001 Q002 PH001 PH002
CN004
UNSW 5V
MTR 12V
CN909
MTR 12V
SW 5V
CN911
CN007
MD-56 BOARD
(See page 121.)
CAPSTAN MOTOR
SW 5V
MTR 12V
CN917
CN908
UNSW 12V
UNSW 12V
UNSW 6V
B,VC MODEL
(See page 89.)
VI-116 BOARD
CN505
CN501
UNSW 12V
CN-62 BOARD
(See page 89.)
IC802
AMP
IC801
SELECTOR
CN103
HF-26 BOARD (See page 125.)
IC203
IC205
IC201
IC202
IC204
AMP
REG
AMPMOD/DEMOD
MUTE SWITCH
CN201
UNSW 12V
UNSW 6V
CN920
SW 9V
SW 5V
CN802
Q201
ERASE B+ SWITCH
Q801
B+ SWITCH
IC260
FM AUDIO REC/PB AMP
VIDEO REC/PB
IC801
RP-147 BOARD
(See page 76.)
(See page 85.)
YC-124 BOARD
CN305
CN300
IC102
1H CCD
IC450
SECAM DET
IC361
HALF H SHIFT
IC362
SELECTOR
IC301
PAL CHROMA
IC101
LUMINANCE
IC501
NTSC PB
IC502
SELECTOR
Q302 Q307 Q308 Q501
CN919
CN918
SW 9V
SW 5V
SW 9V
SW 5V
CN905
SW 9V
SW 5V
CN602
CN604
SW 9V
UNSW 5V
SW 5V
CON605
CN601
IC601
DISPLAY CONTROL
CN904
POWER ON
-30V
UNSW 6V
UNSW 6V
DC 6V
(0V)
LCD601
MF-167 BOARD
IC603
RESET
IC604
POWER FAIL
D618-D620 LED
(See page 135.)
MF-168 BOARD
(See page 123.)
CN201
Q240
REG
MIC AMP
IC201
CN203
Q202
LED SWITCH
D201-D202 LED
UNSW 5V
TK-18 BOARD
CN250
CN251
(See page 128.)
CONTROL SWITCH BLOCK
(See page 128.)
MF-169 BOARD
CN402
CN401
HEADPHONE
RV401
RV402
SHARPNESS
SW 5V
SW 9V
SW 9V
(See page 128.)
MF-170 BOARD
CN302
Q321
CN921
UNSW 5V
BACK UP 5V
VP-33 BOARD (See page 111.)
CN650
VPS DECORDER
IC651
VPS CONTROL
IC652
VC MODEL
SW 5V
UNSW 5V
CN601
ON SCREEN DISPLAY
IC602
IC601
OSD CONTROL
Q603-Q605
IC603
AFC
CG-15 BOARD (See page 97.)
CN923
SW 5V
UNSW 5V
CN914
UNSW 6V
SW 5V
VI-116 BOARD (See page 89.)
CN502
INPUT SELECT
IC501
TUNER SELECT
IC502
Q502
H DET
LINE 3 AMP
IC504
AV OUT SELECT
IC503
Q702
BUFFER
CANEL PLUS-VIDEO
IC701
B,VC MODEL

※ MD-56 BOARD: AEP,NC,VC MODEL
MD-58 BOARD: B MODEL

16

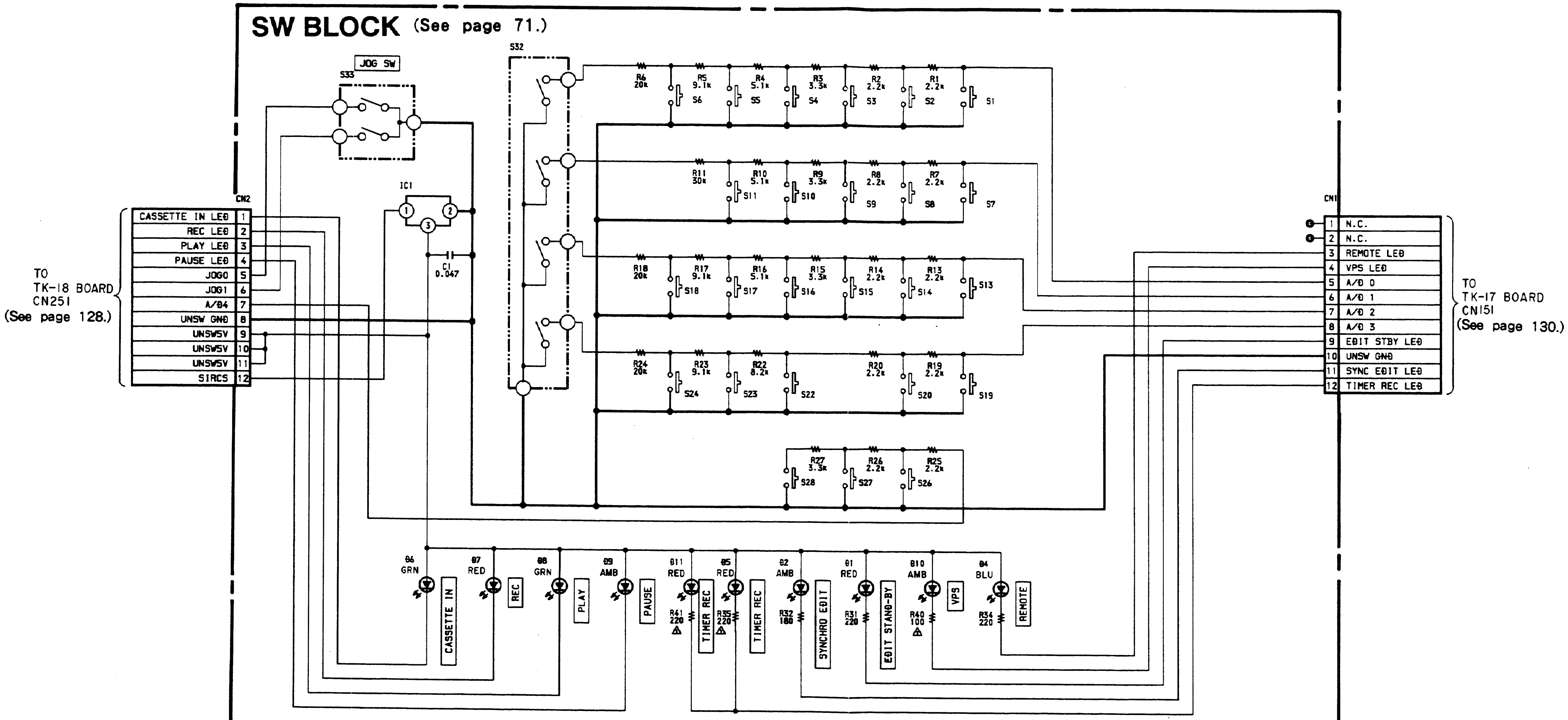
3-17. POWER SUPPLY BLOCK DIAGRAM



MA-140 BOARD (See page 104, 107, 111.)
POWER SUPPLY BLOCK
CN001
35V
SW(GND)
UNSW 12V
SW 9V
UNSW 6V
SW 5V
SW(GND)
AV(GND)
CN902
Q501 30V REG
TU501
IC501 MPX ENCORDER
NCM501
IF501
IC203 SELECTOR
IC204 AMP
Q202 BUFFER
IC403 MOTOR DRIVE
IC202 AMP
IC201 AUDIO SWITCH
IC701 NOR AUDIO REC/PB SWITCH
Q220 Q290 AMP
IC502 SWITCH Q503
AEP,NC V MODEL
RF501
Q104 B+ SWITCH
Q301 Q302 SWITCH
CN002
MTR 12V
MTR 12V
MTR(GND)
MTR(GND)
POWER ON
SW(GND)
SW 5V
UNSW(GND)
UNSW 6V
-30V
6V
(OV)
CN903
Q401 LED DRIVE
IC404 MOTOR DRIVE
DRUM MOTOR
MTR 12V
CN910
IC402 CTL AMP
SERVO/SYSTEM CONTROL
IC002 SUP/T·UP REEL SENSOR AMP
Q001 Q002 PH001 PH002
CN004
MD-56 BOARD (See page 121.)
CN007
CN909
CN911
UNSW 5V
MTR 12V
MTR 12V
SW 5V
CAPSTAN MOTOR
SW 5V
MTR 12V
CN917
CN908
CN920
CN919
CN918
CN905
CN904
CN921
CN923
CN914
B,VC MODEL
VI-116 BOARD (See page 89.)
CN505
CN501
UNSW 12V
CN-62 BOARD (See page 89.)
IC802 AMP
IC801 SELECTOR
CN103
HF-26 BOARD (See page 125.)
IC203 AMP
IC205 REG
IC201 AMPMOD/DEMOD
IC202 IC204 MUTE SWITCH
CN201
UNSW 12V
UNSW 6V
RP-147 BOARD (See page 76.)
CN802
Q201 ERASE B+ SWITCH
Q801 B+ SWITCH
IC260 FM AUDIO REC/PB AMP
IC801 VIDEO REC/PB
SW 9V
SW 5V
YC-124 BOARD (See page 85.)
CN305
CN300
IC102 1H CCD
IC450 SECAM DET
IC361 HALF H SHIFT
IC362 SELECTOR
IC301 PAL CHROMA
IC101 LUMINANCE
IC501 NTSC PB
IC502 SELECTOR
Q302 Q307 Q308 Q501
CN602
CN604
CN605
CN601
IC601 DISPLAY CONTROL
LCD601
IC603 RESET
IC604 POWER FAIL
D618-D620 LED
MF-167 BOARD (See page 135.)
POWER ON
-30V
UNSW 6V
UNSW 6V
DC 6V
(OV)
MF-168 BOARD (See page 123.)
CN201
Q240 REG
IC201 MIC AMP
CN203
Q202 LED SWITCH
D201-D202 LED
UNSW 5V
TK-18 BOARD (See page 128.)
CN250
CN251
CONTROL SWITCH BLOCK
MF-169 BOARD (See page 128.)
CN402
CN401
HEADPHONE
RV401 RV402
SHARPNESS
SW 9V
MF-170 BOARD (See page 128.)
CN302
Q321
VP-33 BOARD (See page 111.)
CN650
UNSW 5V
BACK UP 5V
IC651 VPS DECORDER
IC652 VPS CONTROL
VC MODEL
CG-15 BOARD (See page 97.)
CN601
IC602 ON SCREEN DISPLAY
Q603-Q605
IC601 OSD CONTROL
IC603 AFC
VI-116 BOARD (See page 89.)
CN502
UNSW 6V
SW 5V
IC501 INPUT SELECT
IC502 TUNER SELECT
Q502 H DET
IC504 LINE 3 AMP
IC503 AV OUT SELECT
Q702 BUFFER
IC701 CANEL PLUS-VIDEO
B,VC MODEL

※ MD-56 BOARD: AEP,NC,VC MODEL
MD-58 BOARD: B MODEL

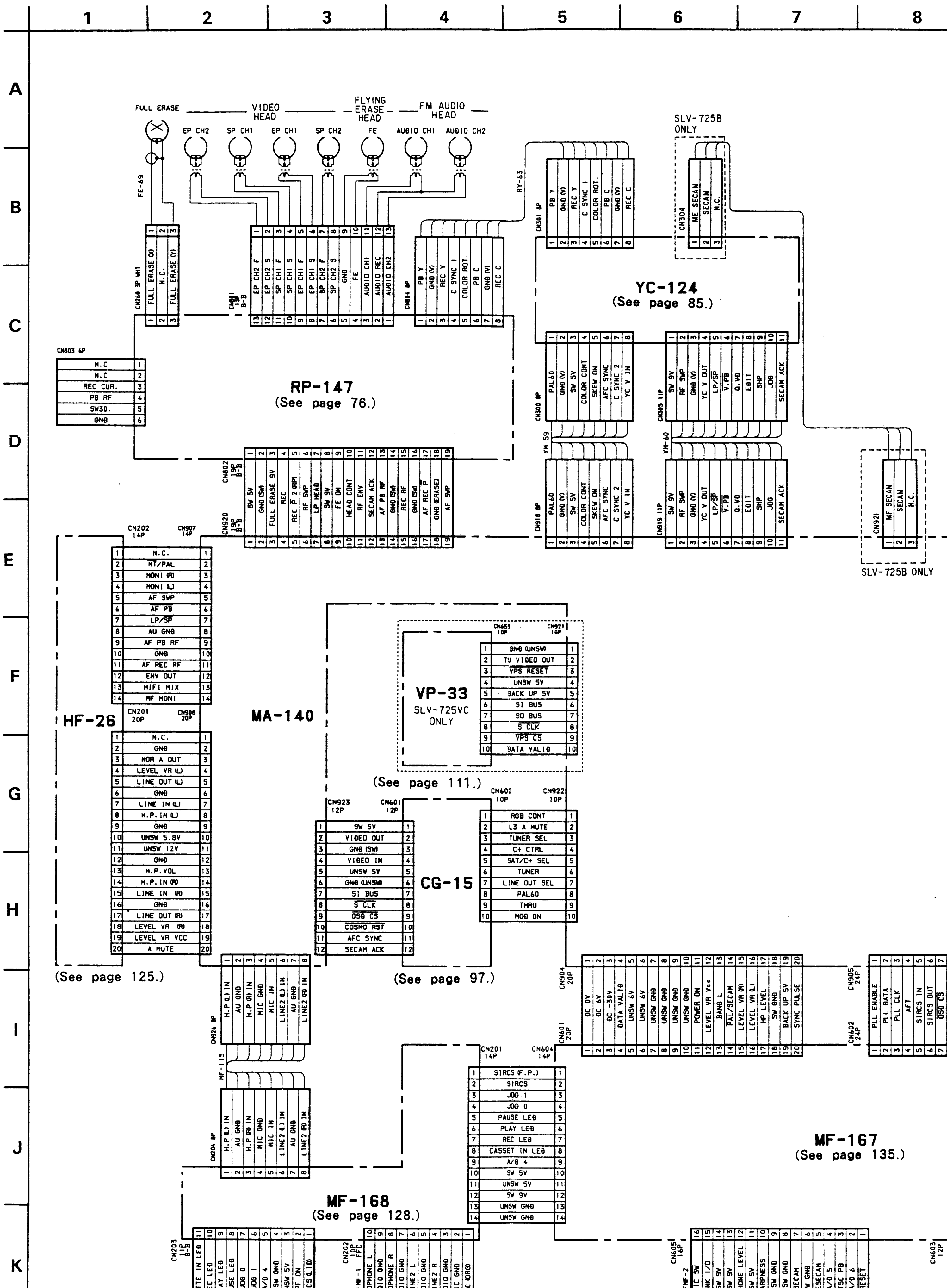
3-18. SW BLOCK


SW BLOCK (See page 71.)
JOG SW
S33
S32
IC1
C1 0.047
CN2
CASSETTE IN LED 1
REC LED 2
PLAY LED 3
PAUSE LED 4
JOG0 5
JOG1 6
A/D4 7
UNSW GND 8
UNSW5V 9
UNSW5V 10
UNSW5V 11
SIRCS 12
TO TK-18 BOARD CN251 (See page 128.)
CN1
1 N.C.
2 N.C.
3 REMOTE LED
4 VPS LED
5 A/D 0
6 A/D 1
7 A/D 2
8 A/D 3
9 EDIT STBY LED
10 UNSW GND
11 SYNC EDIT LED
12 TIMER REC LED
TO TK-17 BOARD CN151 (See page 130.)
R6 20k
R5 9.1k
R4 5.1k
R3 3.3k
R2 2.2k
R1 2.2k
S6
S5
S4
S3
S2
S1
R11 30k
R10 5.1k
R9 3.3k
R8 2.2k
R7 2.2k
S11
S10
S9
S8
S7
R18 20k
R17 9.1k
R16 5.1k
R15 3.3k
R14 2.2k
R13 2.2k
S18
S17
S16
S15
S14
S13
R24 20k
R23 9.1k
R22 8.2k
R20 2.2k
R19 2.2k
S24
S23
S22
S20
S19
R27 3.3k
R26 2.2k
R25 2.2k
S28
S27
S26
D6 GRN
CASSETTE IN
D7 RED
REC
D8 GRN
PLAY
D9 AMB
PAUSE
D11 RED
R41 220
TIMER REC
D5 RED
R35 220
TIMER REC
D2 AMB
R32 180
SYNCHRO EDIT
D1 RED
R31 220
EDIT STAND-BY
D10 AMB
R40 100
VPS
D4 BLU
R34 220
REMOTE

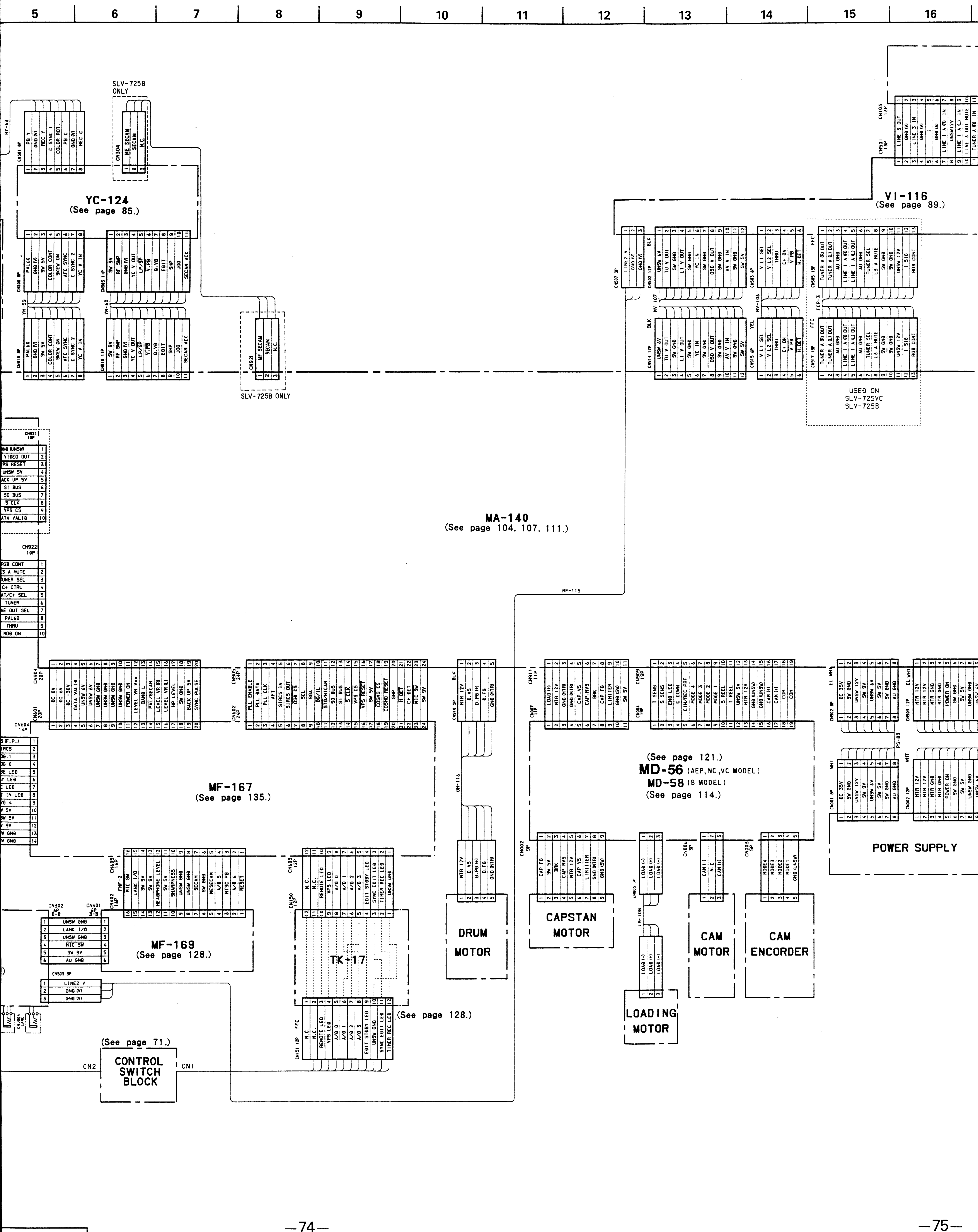
A/D0	S1	S2	S3	S4	S5	S6	SA
	EJECT	STOP	PLAY	REC	EDIT STAND-BY	SYNCHRO EDIT	SHUTTLE A
A/D1	S7	S8	S9	S10	S11	S12	SB
	EDIT MONITOR	H.S. REW	FF	REW	PAUSE		SHUTTLE B
A/D2	S13	S14	S15	S16	S17	S18	SC
	INPUT SELECT	TAPE SPEED	EDIT ON/OFF	TIMER REC	QUICK TIMER	TV/VTR	SHUTTLE C
A/D3	S19	S20	S21	S22	S23	S24	SD
	CH+	CH-		REMOTE	AUTO TRACKING	MANUAL TRACK+	SHUTTLE D
A/D4	S25	S26	S27	S28	S29	S30	S31
		VPS ON/OFF	COUNTER RESET	MANUAL TRACK-			

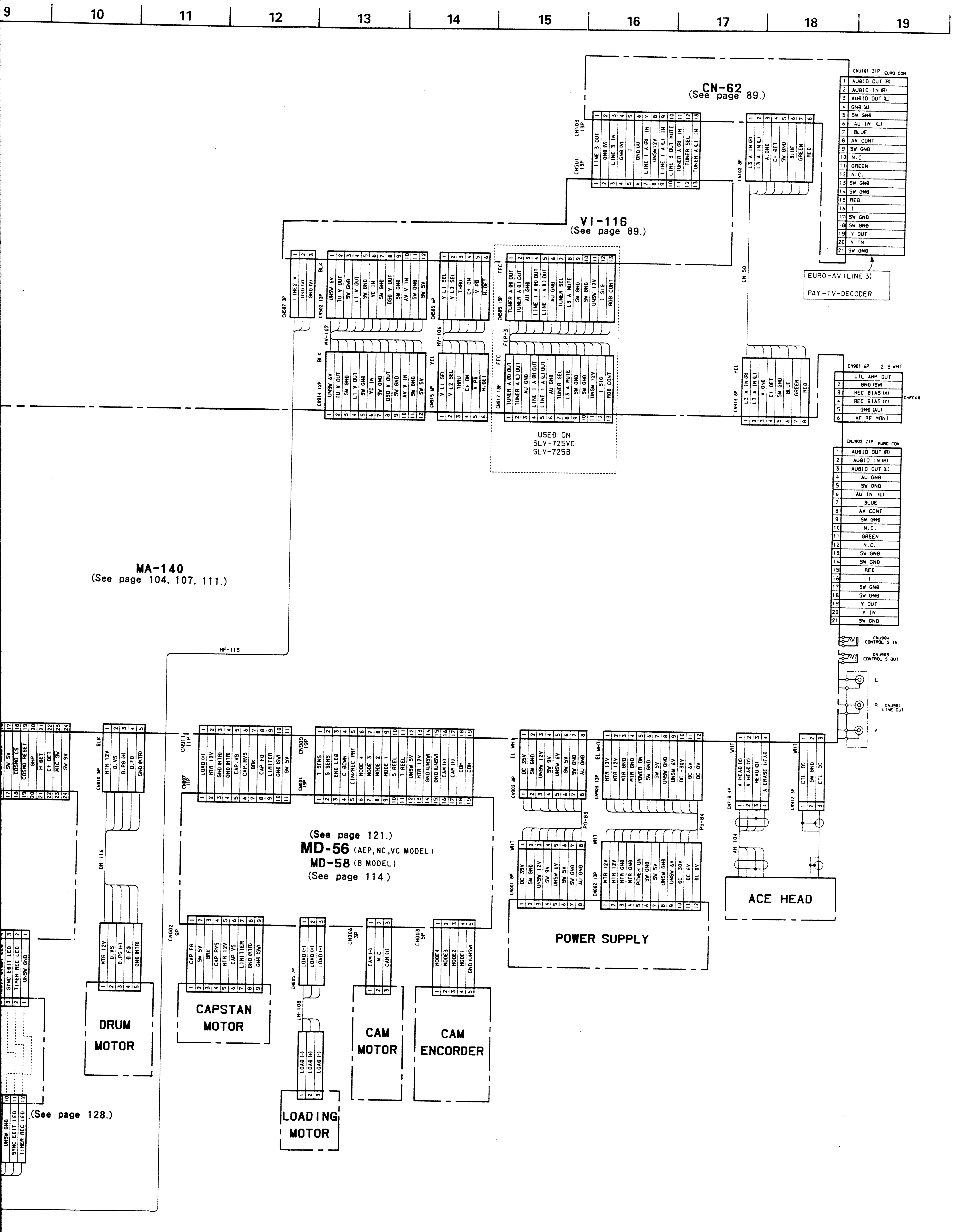
SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
FULL ERASE
VIDEO HEAD
FLYING ERASE HEAD
FM AUDIO HEAD
EP CH2
SP CH1
EP CH1
SP CH2
FE
AUDIO CH1
AUDIO CH2
SLV-725B ONLY
YC-124
(See page 85.)
RP-147
(See page 76.)
HF-26
(See page 125.)
MA-140
VP-33
SLV-725VC ONLY
(See page 111.)
CG-15
(See page 97.)
MF-167
(See page 135.)
MF-168
(See page 128.)
(See page 128.)
TK-18
MF-170
(See page 128.)
MF-169
(See page 128.)
(See page 71.)
CONTROL SWITCH BLOCK
CN2
CN1
SLV-725B ONLY
16

DIAGRAMS

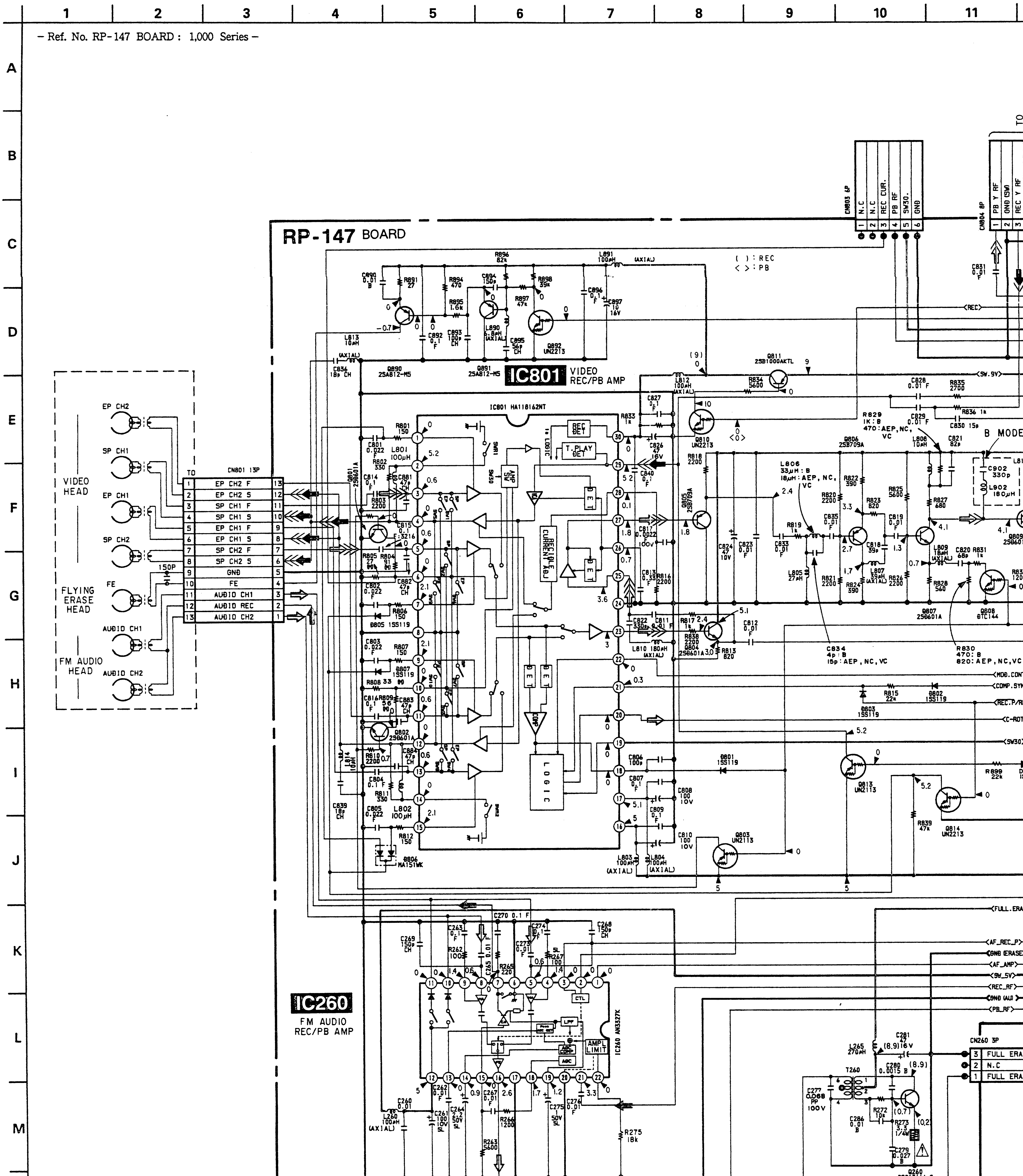

5
6
7
8
9
10
11
12
13
14
15
16
SLV-725B ONLY
YC-124
(See page 85.)
YH-59
YH-60
CN304
ME SECAM
SECAM
N.C.
CN921
MF SECAM
SECAM
N.C.
SLV-725B ONLY
VI-116
(See page 89.)
MV-107
MV-106
FFC
FCP-3
USED ON
SLV-725VC
SLV-725B
MA-140
(See page 104, 107, 111.)
MF-115
MF-167
(See page 135.)
(See page 121.)
MD-56 (AEP,NC,VC MODEL)
MD-58 (B MODEL)
(See page 114.)
DM-116
PS-83
POWER SUPPLY
MF-169
(See page 128.)
TK-17
(See page 128.)
DRUM
MOTOR
CAPSTAN
MOTOR
CAM
MOTOR
CAM
ENCORDER
LM-108
LOADING
MOTOR
(See page 71.)
CONTROL
SWITCH
BLOCK
CN2
CN1
CN302
CN401
CN303 3P
LINE2 V
GND (V)
GND (V)

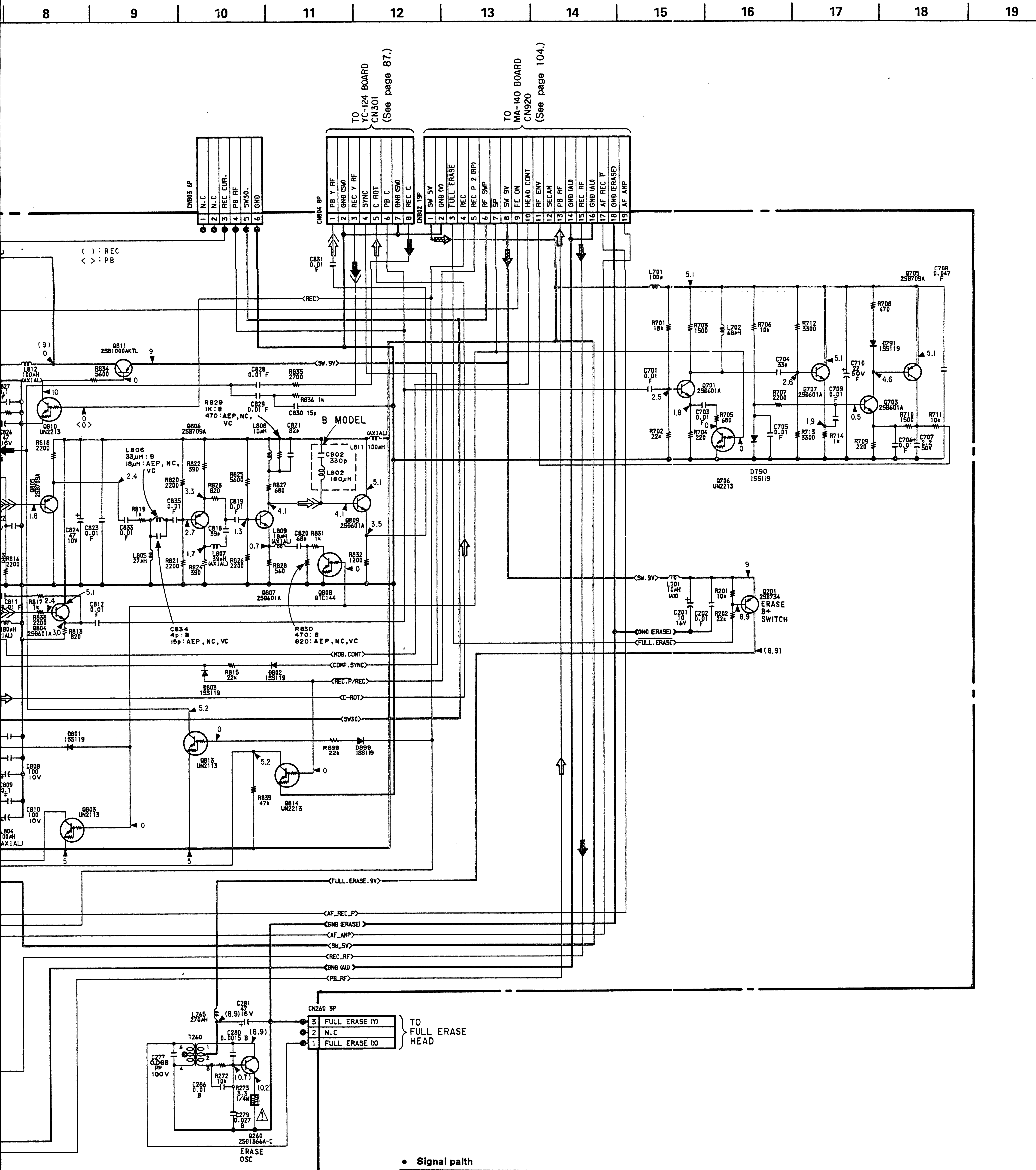

9
10
11
12
13
14
15
16
17
18
19
CN-62
(See page 89.)
VI-116
(See page 89.)
EURO-AV (LINE 3)
PAY-TV-DECODER
USED ON
SLV-725VC
SLV-725B
MA-140
(See page 104, 107, 111.)
MF-115
(See page 121.)
MD-56 (AEP, NC, VC MODEL)
MD-58 (B MODEL)
(See page 114.)
DRUM
MOTOR
CAPSTAN
MOTOR
LOADING
MOTOR
CAM
MOTOR
CAM
ENCODER
POWER SUPPLY
ACE HEAD
(See page 128.)
CHECK
CONTROL S IN
CONTROL S OUT
LINE OUT

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

RP-147 (HEAD AMP) SCHEMATIC DIAGRAM

– Ref. No. RP-147 BOARD : 1,000 Series –

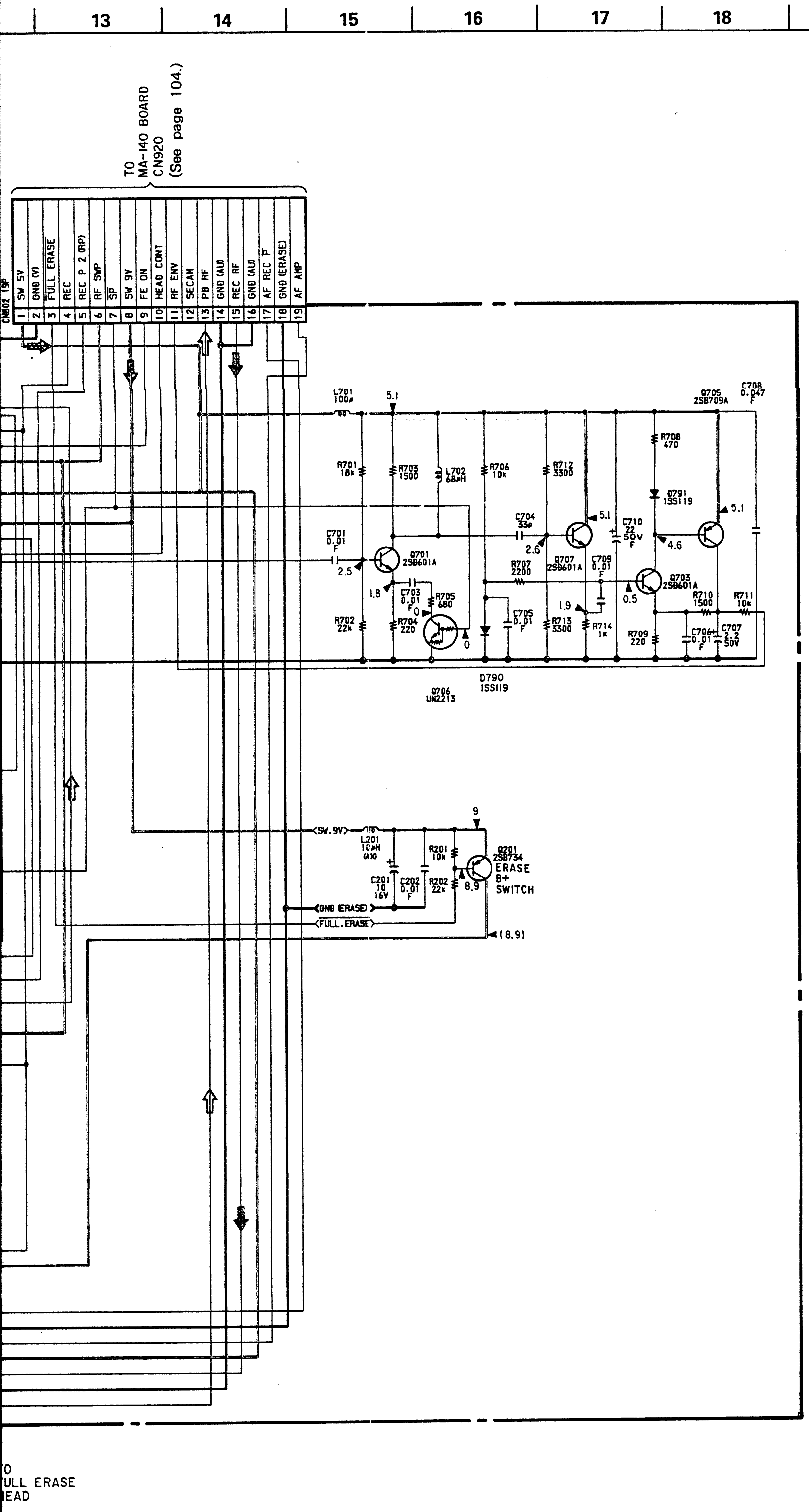

RP-147 BOARD
( ) : REC
< > : PB
IC801 VIDEO REC/PB AMP
IC801 HA118162NT
REC DET
T.PLAY DET
RECIPLE CURRENT ADJ
LOGIC
COMP
IC260 FM AUDIO REC/PB AMP
IC260 AN3327K
AMPL LIMIT
ERASE OSC
Q260 2SD1366A-C
VIDEO HEAD
EP CH2
SP CH1
EP CH1
SP CH2
FLYING ERASE HEAD
FE
FM AUDIO HEAD
AUDIO CH1
AUDIO CH2
TO
CN801 13P
1 EP CH2 F 13
2 EP CH2 S 12
3 SP CH1 F 11
4 SP CH1 S 10
5 EP CH1 F 9
6 EP CH1 S 8
7 SP CH2 F 7
8 SP CH2 S 6
9 GND 5
10 FE 4
11 AUDIO CH1 3
12 AUDIO REC 2
13 AUDIO CH2 1
150P
CN803 6P
1 N.C
2 N.C
3 REC CUR.
4 PB RF
5 SW30.
6 GND
CN804 8P
1 PB Y RF
2 GND (SW)
3 REC Y RF
CN260 3P
3 FULL ERA
2 N.C
1 FULL ERA
B MODE
<REC>
<SW.9V>
<MOD.CONT
<COMP.SY
<REC.P/R
<C-ROT
<SW30
<FULL.ERA
<AF_REC_P>
<GND ERASE
<AF_AMP>
<SW_5V>
<REC_RF>
<GND (AU)
<PB_RF>
Q890 2SA812-M5
Q891 2SA812-M5
Q892 UN2213
Q811 2SB1000AKTL
Q810 UN2213
Q805 2SB709A
Q806 2SB709A
Q807 2SB601A
Q808 DTC144
Q801 2SB601A
Q802 2SB601A
Q804 2SB601A
Q803 UN2113
Q813 UN2113
Q814 UN2213
D801 1SS119
D802 1SS119
D803 1SS119
D805 1SS119
D806 MA151WK
D807 1SS119
L806 33μH : B 18μH : AEP, NC, VC
R829 1K : B 470 : AEP, NC, VC
C834 4p : B 15p : AEP, NC, VC
R830 470 : B 820 : AEP, NC, VC
C902 330p
L902 180μH
16
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L M N


8
9
10
11
12
13
14
15
16
17
18
19
TO YC-124 BOARD CN301 (See page 87.)
TO MA-140 BOARD CN920 (See page 104.)
CN803 6P
1 N.C
2 N.C
3 REC CUR.
4 PB RF
5 SW30.
6 GND
CN804 8P
1 PB Y RF
2 GND (SW)
3 REC Y RF
4 SYNC
5 C ROT
6 PB C
7 GND (SW)
8 REC C
CN802 19P
1 SW 5V
2 GND (V)
3 FULL ERASE
4 REC
5 REC P 2 (RP)
6 RF SWP
7 SP
8 SW 9V
9 FE ON
10 HEAD CONT
11 RF ENV
12 SECAM
13 PB RF
14 GND (AU)
15 REC RF
16 GND (AU)
17 AF REC P
18 GND (ERASE)
19 AF AMP
( ) : REC
< > : PB
B MODEL
Q811 2SB1000AKTL
Q810 UN2213
Q805 2SB709A
Q804 2SB601A
Q806 2SB709A
Q807 2SB601A
Q808 BTC144
Q809 2SB601A
Q813 UN2113
Q814 UN2213
Q803 UN2113
D802 1SS119
D803 1SS119
D801 1SS119
D899 1SS119
C902 330p
L902 180μH
L806 33μH : B 18μH : AEP, NC, VC
R829 1K : B 470 : AEP, NC, VC
C834 4p : B 15p : AEP, NC, VC
R830 470 : B 820 : AEP, NC, VC
<REC>
<SW.9V>
<MOD.CONT>
<COMP.SYNC>
<REC.P/REC>
<C-ROT>
<SW30>
<FULL.ERASE.9V>
<AF_REC_P>
<GND (ERASE)>
<AF_AMP>
<SW_5V>
<REC_RF>
<GND (AU)>
<PB_RF>
<FULL.ERASE>
Q705 2SB709A
Q701 2SB601A
Q707 2SB601A
Q703 2SB601A
Q706 UN2213
D790 1SS119
D791 1SS119
Q201 2SB734 ERASE B+ SWITCH
Q260 2SB1366A-C ERASE OSC
T260
CN260 3P
3 FULL ERASE (Y)
2 N.C
1 FULL ERASE (X)
TO FULL ERASE HEAD

- **Signal palth**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	➡
PB	⇨	⇨⇨	⇨⇨⇨	⇨

HEAD AMP HEAD AMP


13
14
15
16
17
18
19
20
TO
MA-140 BOARD
CN920
(See page 104.)
CN802 19P
1 SW 5V
2 GND (V)
3 FULL ERASE
4 REC
5 REC P 2 (RP)
6 RF SWP
7 SP
8 SW 9V
9 FE ON
10 HEAD CONT
11 RF ENV
12 SECAM
13 PB RF
14 GND (AU)
15 REC RF
16 GND (AU)
17 AF REC P
18 GND (ERASE)
19 AF AMP
L701 100µ
5.1
Q705 2SB709A
C708 0.047 F
R701 18k
R703 1500
L702 68µH
R706 10k
R712 3300
R708 470
D791 1SS119
5.1
C704 33p
5.1
C710 22 50V F
4.6
C701 0.01 F
2.6
Q701 2SB601A
Q707 2SB601A
C709 0.01 F
Q703 2SB601A
2.5
R707 2200
1.8
C703 0.01 F
R705 680
1.9
0.5
R710 1500
R711 10k
R702 22k
R704 220
0
C705 0.01 F
R713 3300
R714 1k
R709 220
C706 0.01 F
C707 2.2 50V
0
D790 1SS119
Q706 UN2213
9
SW.9V
L201 10µH (AX)
R201 10k
Q201 2SB734
ERASE B+ SWITCH
C201 10 16V
C202 0.01 F
R202 22k
8.9
GND (ERASE)
FULL.ERASE
(8.9)
TO
FULL ERASE
HEAD

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For printed wiring boards:

- ○—— : indicated a lead wire mounted on the component side.
- ●—— : indicated a lead wire mounted on the conductor side.
- ● : Through hole.
- ■ : Parts mounted on the conductor side.
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.
- Circled numbers refer to waveforms.

Caution :	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the parts face are indicated.

For schematic diagram:

- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4 W unless otherwise noted.
  Chip resistors: 1/10 W unless otherwise noted.
  kΩ : 1000 Ω , MΩ : 1000kΩ .
- All capacitors are in µF unless otherwise noted. pF: µ µF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- Δ : internal component.
- ▬▬ : B + Line.
- ▬ ▬ ▬ : B − Line.
- ⇨ : IN/OUT direction of B line (+, −).
- Circled numbers refer to waveforms.
- Voltage are dc between ground and measurement points.
- Readings are taken with a color- bar signal input.
- Readings are taken with a digital multimeter (DC10 MΩ).
- Voltage are taken with a VOM (input impedance 10 MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note:	**Note:**
The components identified by matk ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

When indicating parts by reference number, please include the board name.

Signal palth

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

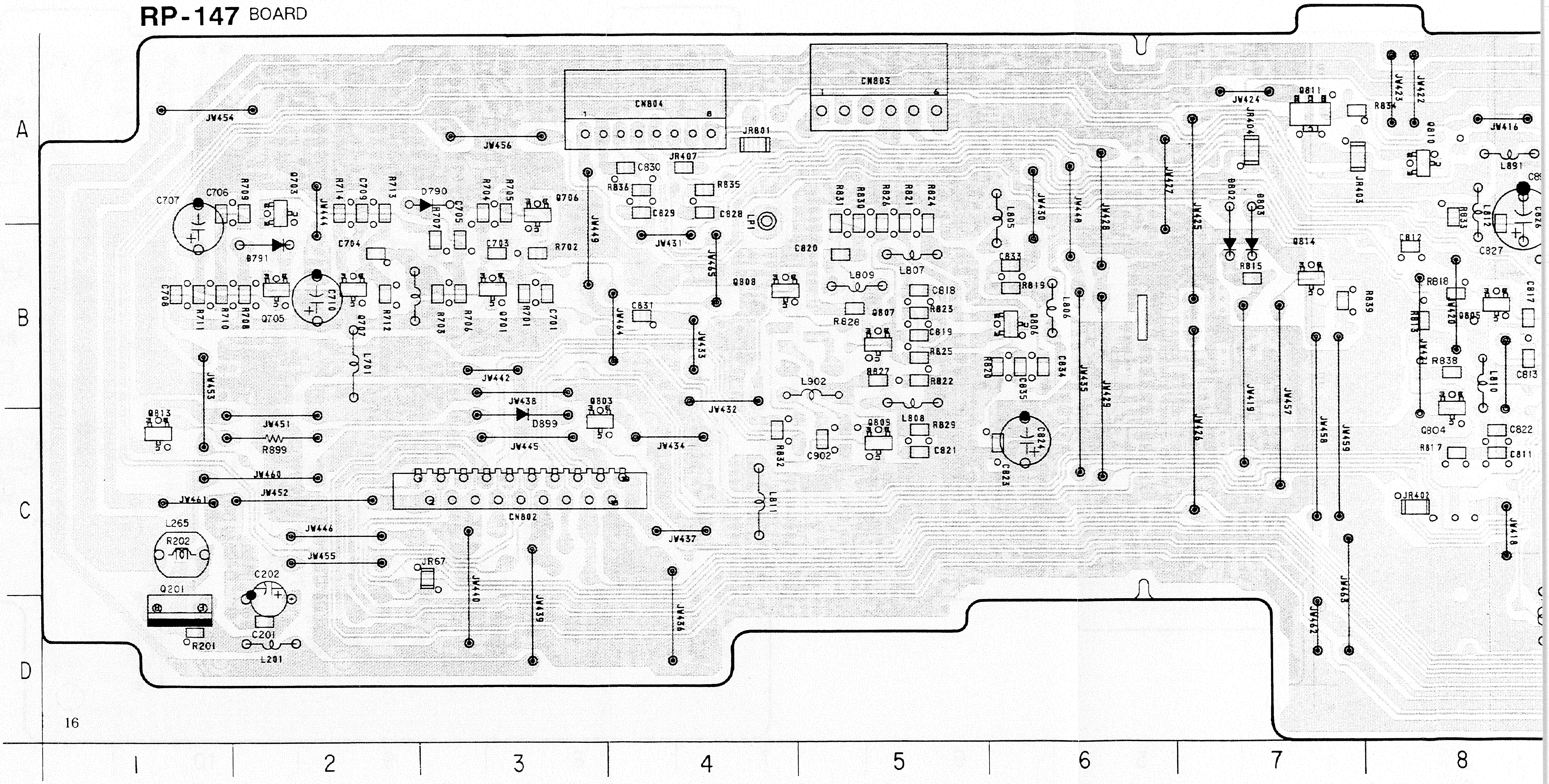
HEAD AMP HEAD AMP

RP-147 (HEAD AMP) PRINTED WIRING BOARD

– Ref. No. RP-147 BOARD : 1,000 Series –

RP-147 BOARD

D790	A-3
D791	B-2
D801	D-9
D802	A-7
D803	A-7
D805	D-10
D806	C-10
D807	C-10
IC260	B-11
IC801	B-9
Q201	D-1
Q260	A-11
Q701	B-3
Q703	A-2
Q705	B-2
Q706	A-3
Q707	B-2
Q801	C-10
Q802	C-10
Q803	C-3
Q804	C-8
Q805	B-8
Q806	B-6
Q807	B-5
Q808	B-4
Q809	C-5
Q810	B-8
Q811	B-7
Q813	C-1
Q814	B-7
Q890	A-10
Q891	A-9
Q892	A-9



RP-147 BOARD
A
B
C
D
16
1
2
3
4
5
6
7
8
CN804
CN803
CN802
JW454
JW456
JR801
JR407
C830
R836
C829
C828
R835
LP1
C707
C706
R709
Q703
JW444
R714
C709
R713
D790
R707
C705
R704
R705
Q706
R702
C703
C704
D791
C708
R711
R710
R708
Q705
C710
Q707
R712
R703
R706
Q701
R701
C701
L701
JW449
JW431
JW445
C831
JW464
JW433
JW442
JW438
D899
Q803
JW451
R899
JW445
JW434
JW432
JW453
Q813
JW460
JW461
JW452
JW446
JW455
JR67
JW440
JW439
JW436
JW437
L265
R202
Q201
C202
C201
R201
L201
R831
R830
R826
R821
R824
C820
L809
L807
C818
Q808
Q807
R828
C823
C819
R825
R827
C822
L902
Q809
L808
R829
C821
R832
C902
L811
L805
JW430
JW448
JW428
JW427
JW425
JW426
JW429
JW435
C833
R819
L806
Q806
R820
C835
C834
C824
C823
JW424
JR404
Q811
R834
JW423
JW422
Q810
JR403
JW416
L891
Q802
Q803
R815
Q814
C812
C827
R833
L812
C826
R818
JW420
Q805
C817
JW419
JW457
JW458
JW459
R839
R813
JW417
R838
L810
C813
Q804
R817
C822
C811
JR402
JW418
JW462
JW463

DIODE

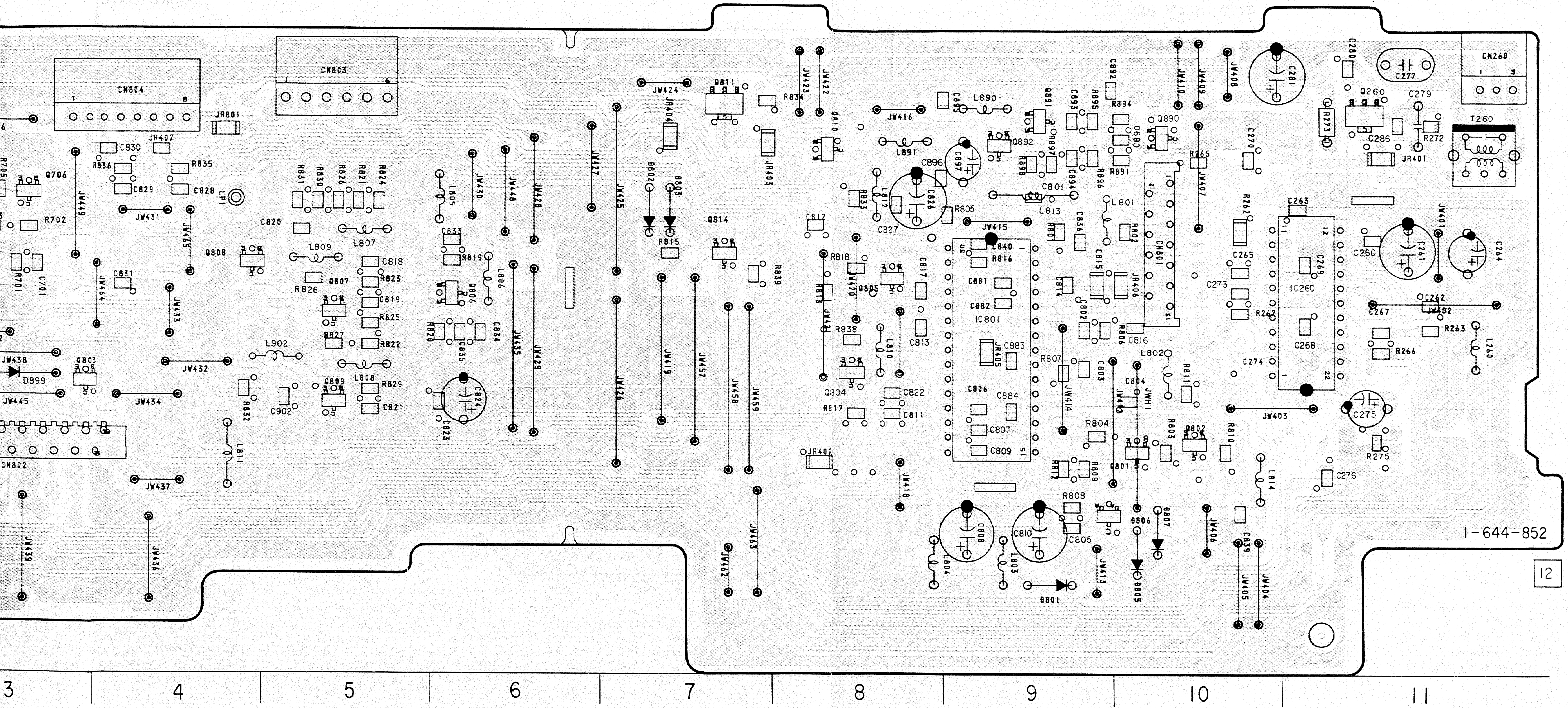
D790	8-719-987-06	WG713A	(AEP, NC, VC)
D790	8-719-911-19	1SS119	(B)
D791	8-719-987-06	WG713A	(AEP, NC, VC)
D791	8-719-911-19	1SS119	(B)
D801	8-719-987-06	WG713A	(AEP, NC, VC)
D801	8-719-911-19	1SS119	(B)
D802	8-719-987-06	WG713A	(AEP, NC, VC)
D802	8-719-911-19	1SS119	(B)
D803	8-719-987-06	WG713A	(AEP, NC, VC)
D803	8-719-911-19	1SS119	(B)
D805	8-719-987-06	WG713A	(AEP, NC, VC)
D805	8-719-911-19	1SS119	(B)
D806	8-719-400-18	MA152WK	
D807	8-719-987-06	WG713A	(AEP, NC, VC)
D807	8-719-911-19	1SS119	(B)
D899	8-719-987-06	WG713A	(AEP, NC, VC)
D899	8-719-911-19	1SS119	(B)

IC

IC260	8-759-055-49	AN3327K
IC801	8-759-046-75	HA118162NT

TRANSISTOR

Q201	8-729-140-97	KSA708	
Q260	8-729-103-72	2SD1005-BV	
Q701	8-729-422-28	2SD601A-R	
Q703	8-729-422-28	2SD601A-R	
Q705	8-729-422-37	2SB709A-R	
Q706	8-729-901-01	DTC144EK	(AEP, NC, VC)
Q706	8-729-421-19	UN2213	(B)
Q707	8-729-422-28	2SD601A-R	
Q801	8-729-422-28	2SD601A-R	
Q802	8-729-422-28	2SD601A-R	
Q803	8-729-901-06	DTA144EK	(AEP, NC, VC)
Q803	8-729-424-18	UN2113	(B)
Q804	8-729-422-28	2SD601A-R	
Q805	8-729-422-37	2SB709A-R	
Q806	8-729-422-37	2SB709A-R	
Q807			
Q808			
Q809			
Q810			
Q811			


CN804
CN803
CN802
CN801
CN260
IC801
IC260
T260
Q260
Q701
Q706
Q801
Q802
Q803
Q804
Q805
Q806
Q807
Q808
Q809
Q810
Q811
Q814
Q890
Q892
D801
D802
D803
D805
D806
D807
D899
C281
C261
C264
C275
C808
C810
C824
C826
C897
1-644-852
12
3
4
5
6
7
8
9
10
11

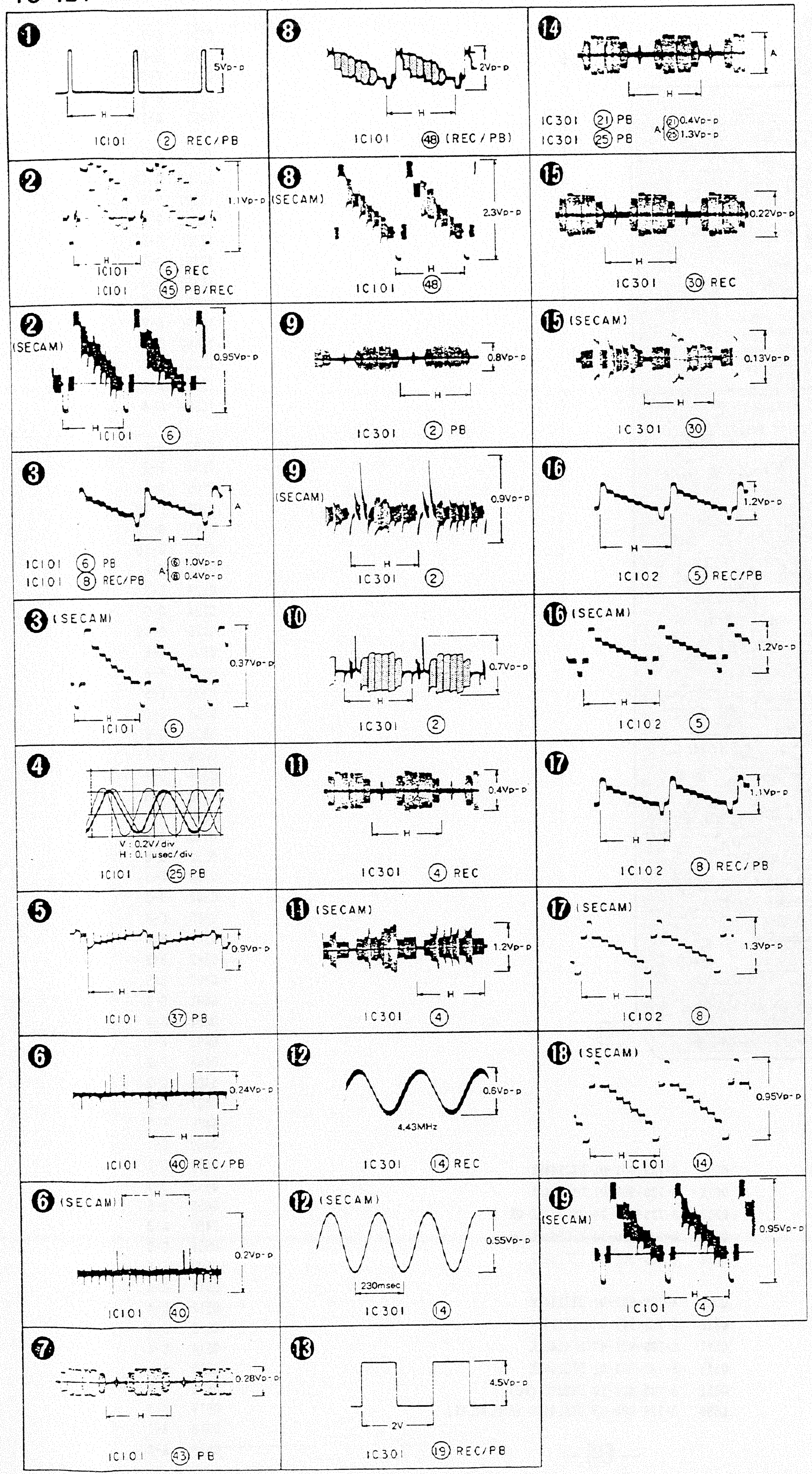
IC

5-49	AN3327K
6-75	HA118162NT

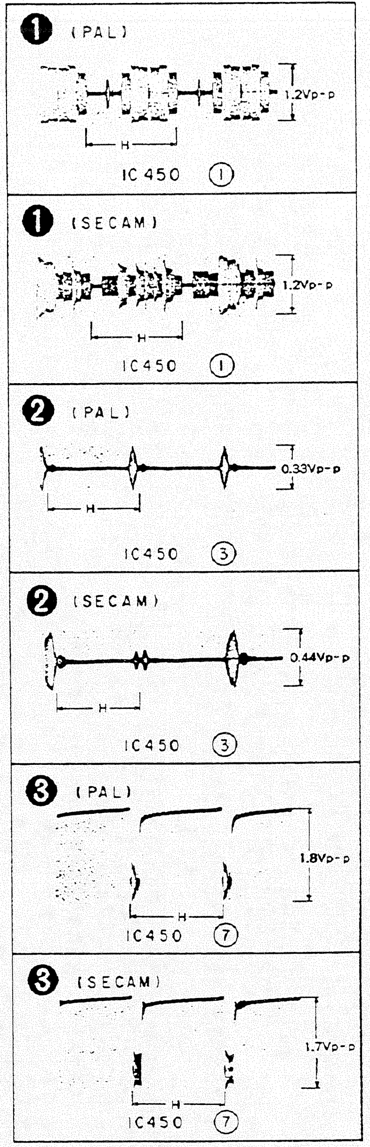
TRANSISTOR

Q201	8-729-140-97	KSA708
Q260	8-729-103-72	2SD1005-BV
Q701	8-729-422-28	2SD601A-R
Q703	8-729-422-28	2SD601A-R
Q705	8-729-422-37	2SB709A-R
Q706	8-729-901-01	DTC144EK (AEP, NC, VC)
Q706	8-729-421-19	UN2213 (B)
Q707	8-729-422-28	2SD601A-R
Q801	8-729-422-28	2SD601A-R
Q802	8-729-422-28	2SD601A-R
Q803	8-729-901-06	DTA144EK (AEP, NC, VC)
Q803	8-729-424-18	UN2113 (B)
Q804	8-729-422-28	2SD601A-R
Q805	8-729-422-37	2SB709A-R
Q806	8-729-422-37	2SB709A-R
Q807	8-729-422-28	2SD601A-R
Q808	8-729-901-01	DTC144EK
Q809	8-729-422-28	2SD601A-R
Q810	8-729-923-80	DTC143EK
Q811	8-729-301-98	2SB1000A-L
Q813	8-729-901-06	DTA144EK (AEP, NC, VC)
Q813	8-729-424-18	UN2113 (B)
Q814	8-729-901-01	DTC144EK (AEP, NC, VC)
Q814	8-729-421-19	UN2213 (B)
Q890	8-729-216-22	2SA1162
Q891	8-729-216-22	2SA1162
Q892	8-729-901-01	DTC144EK (AEP, NC, VC)
Q892	8-729-421-19	UN2213 (B)

YC-124 BOARD (1/2)

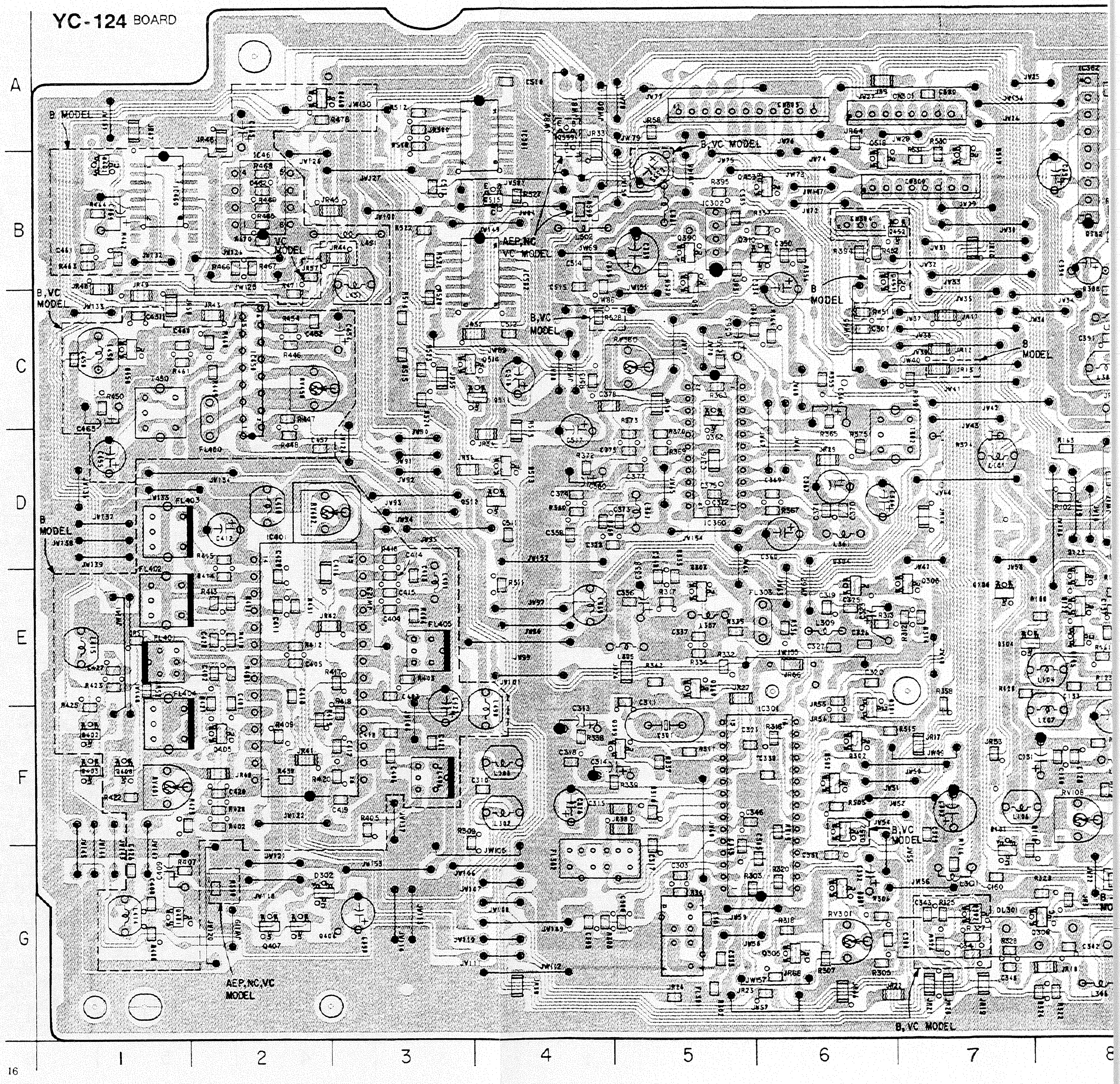


YC-124 BOARD (2/2)



YC-124 (VIDEO) PRINTED WIRING BOARD

– Ref. No. YC-124 BOARD : 2,000 Series –



DIODE

D101	8-719-400-18	MA152WK
D105	8-719-400-18	MA152WK
D301	8-719-400-18	MA152WK
D302	8-719-400-18	MA152WK
D401	8-719-400-18	MA152WK (B)

IC

IC101	8-759-420-07	AN3231K
IC102	8-752-321-89	CXL5003P
IC301	8-759-320-78	HA118016NT
IC302	8-759-822-05	LA7213
IC360	8-759-420-53	AN3592K
IC361	8-759-991-54	MSM6989RS
IC362	8-759-927-56	BA7021
IC401	8-759-991-55	BA7107 (B)
IC450	8-759-904-95	BA7007 (B, VC)
IC460	8-759-927-46	SN74HC00ANS (B)
IC461	8-759-987-16	LM393P (B)
IC501	8-759-925-90	SN74HC74ANS
IC502	8-759-300-71	TC4053BF

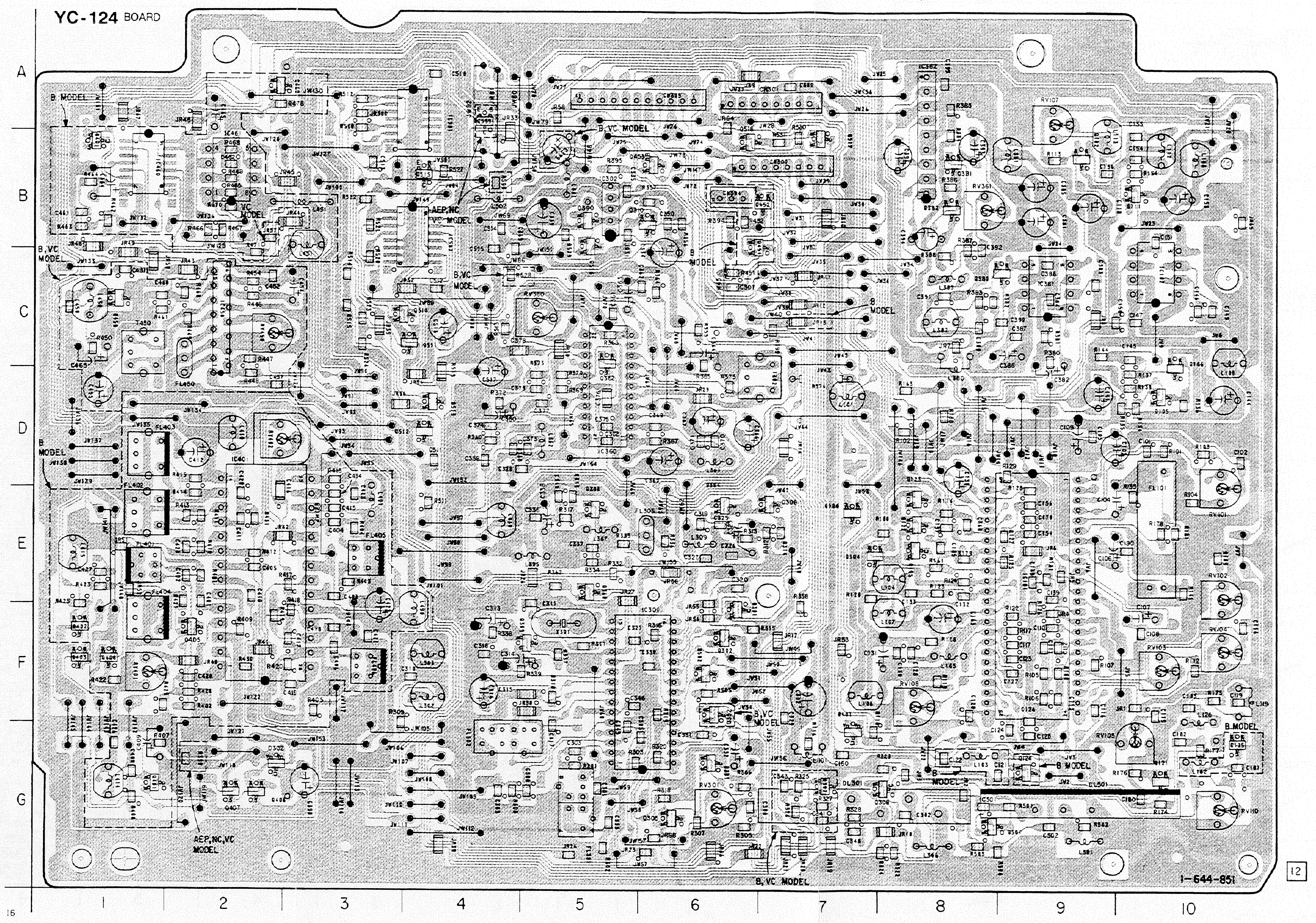
TRANSISTOR

Q102	8-729-216-22	2SA1162
Q104	8-729-901-01	DTC144EK
Q105	8-729-920-74	2SC2412K-QR
Q106	8-729-216-22	2SA1162
Q111	8-729-216-22	2SA1162
Q121	8-729-920-74	2SC2412K-QR
Q122	8-729-901-01	DTC144EK
Q123	8-729-901-01	DTC144EK
Q124	8-729-901-01	DTC144EK (B)
Q125	8-729-901-01	DTC144EK (B)
Q301	8-729-920-74	2SC2412K-QR
Q302	8-729-920-74	2SC2412K-QR
Q303	8-729-920-74	2SC2412K-QR
Q304	8-729-900-53	DTC114EK
Q305	8-729-216-22	2SA1162
Q306	8-729-901-01	DTC144EK
Q307	8-729-920-74	2SC2412K-QR (B, VC)
Q308	8-729-920-74	2SC2412K-QR
Q309	8-729-920-74	2SC2412K-QR
Q310	8-729-901-04	DTA114EK
Q352	8-729-901-01	DTC144EK (B, VC)
Q360	8-729-809-77	2SC3142-J4
Q362	8-729-901-01	DTC144EK
Q380	8-729-920-74	2SC2412K-QR
Q381	8-729-920-74	2SC2412K-QR
Q382	8-729-216-22	2SA1162
Q390	8-729-901-01	DTC144EK
Q401	8-729-920-74	2SC2412K-QR (B)
Q402	8-729-920-74	2SC2412K-QR (B)
Q403	8-729-901-47	DTA143EK
Q40		
Q40		
Q40		
Q40		
Q45		
Q45		
Q45		
Q45		
Q46		
Q50		

.2Vp-p
2Vp-p
33Vp-p
44Vp-p
1.8Vp-p
1.7Vp-p

YC-124 (VIDEO) PRINTED WIRING BOARD

– Ref. No. YC-124 BOARD : 2,000 Series –



YC-124 BOARD

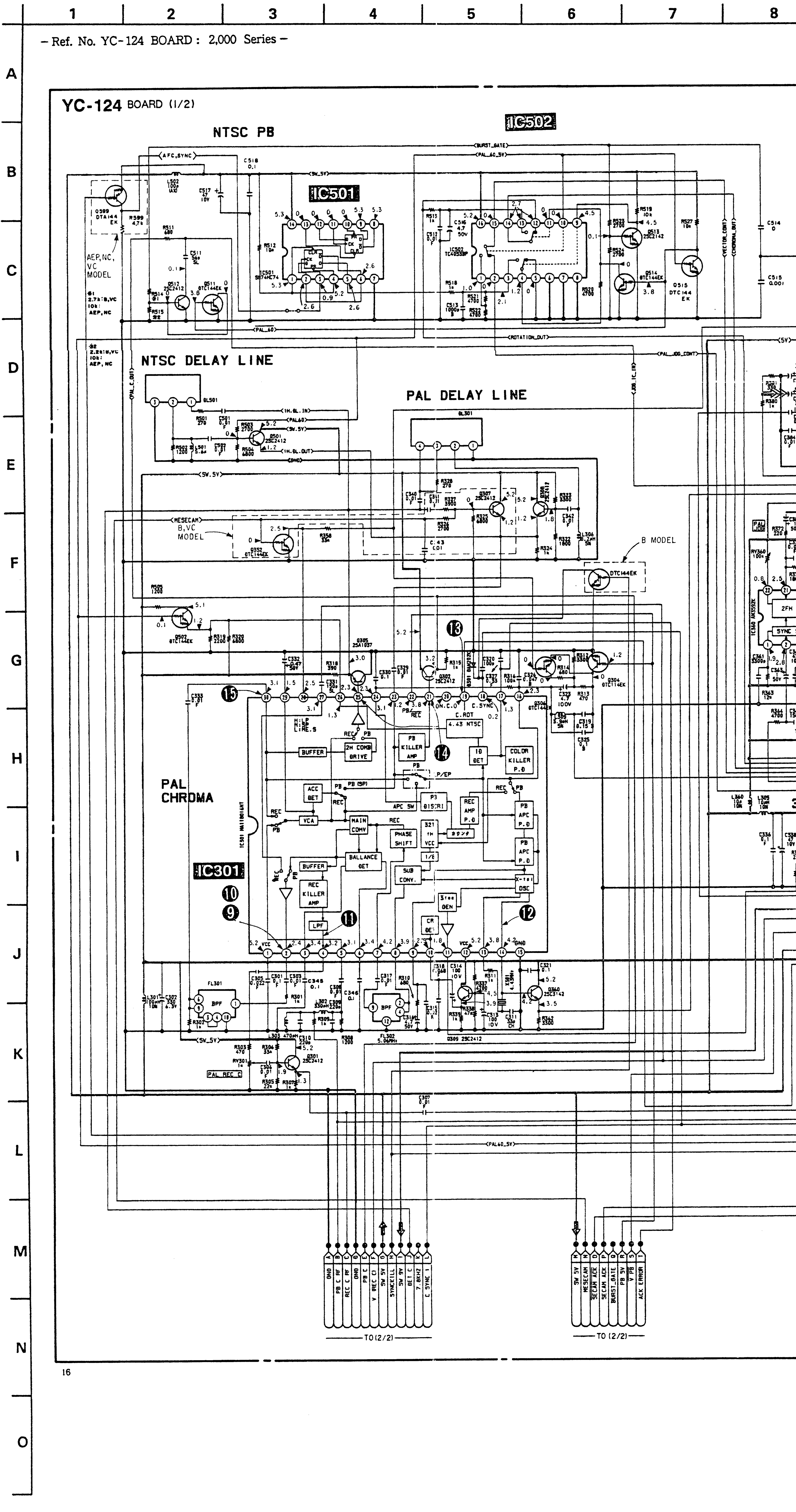
D101	G-7
D105	E-8
D301	F-6
D302	G-2
D401	B-1
IC101	E-9
IC102	C-10
IC301	F-6
IC302	B-5
IC360	D-5
IC361	C-9
IC362	A-8
IC401	D-2
IC450	C-2
IC460	B-1
IC461	B-2
IC501	A-4
IC502	C-4
Q102	B-9
Q104	E-7
Q105	D-10
Q106	D-10
Q111	B-10
Q121	G-10
Q122	E-8
Q123	E-8
Q124	G-9
Q125	G-10
Q301	G-6
Q302	F-6
Q303	E-5
Q304	E-6
Q305	G-6
Q306	E-7
Q307	G-7
Q308	G-8
Q309	F-5
Q310	B-5
Q352	G-6
Q360	F-5
Q362	D-5
Q380	C-8
Q381	B-8
Q382	B-8
Q390	B-5
Q401	G-1
Q402	F-1
Q403	F-1
Q405	F-2
Q406	G-2
Q407	G-2
Q408	F-1
Q450	C-1
Q451	C-7
Q452	B-7
Q453	B-5
Q460	A-3
Q501	G-9
Q502	F-6
Q511	C-4
Q512	D-4
Q513	D-4
Q514	C-4
Q515	B-4
Q516	C-5
Q517	B-7
Q518	B-7
Q599	A-4

IC361	8-759-991-54	MSM6989RS
IC362	8-759-927-56	BA7021
IC401	8-759-991-55	BA7107 (B)
IC450	8-759-904-95	BA7007 (B, VC)
IC460	8-759-927-46	SN74HC00ANS (B)
IC461	8-759-987-16	LM393P (B)
IC501	8-759-925-90	SN74HC74ANS
IC502	8-759-300-71	TC4053BF

TRANSISTOR

Q102	8-729-216-22	2SA1162
Q104	8-729-901-01	DTC144EK
Q105	8-729-920-74	2SC2412K-QR
Q106	8-729-216-22	2SA1162
Q111	8-729-216-22	2SA1162
Q121	8-729-920-74	2SC2412K-QR
Q122	8-729-901-01	DTC144EK
Q123	8-729-901-01	DTC144EK
Q124	8-729-901-01	DTC144EK (B)
Q125	8-729-901-01	DTC144EK (B)
Q301	8-729-920-74	2SC2412K-QR
Q302	8-729-920-74	2SC2412K-QR
Q303	8-729-920-74	2SC2412K-QR
Q304	8-729-900-53	DTC114EK
Q305	8-729-216-22	2SA1162
Q306	8-729-901-01	DTC144EK
Q307	8-729-920-74	2SC2412K-QR (B, VC)
Q308	8-729-920-74	2SC2412K-QR
Q309	8-729-920-74	2SC2412K-QR
Q310	8-729-901-04	DTA114EK
Q352	8-729-901-01	DTC144EK (B, VC)
Q360	8-729-809-77	2SC3142-J4
Q362	8-729-901-01	DTC144EK
Q380	8-729-920-74	2SC2412K-QR
Q381	8-729-920-74	2SC2412K-QR
Q382	8-729-216-22	2SA1162
Q390	8-729-901-01	DTC144EK
Q401	8-729-920-74	2SC2412K-QR (B)
Q402	8-729-920-74	2SC2412K-QR (B)
Q403	8-729-901-47	DTA143EK
Q405	8-729-920-74	2SC2412K-QR (B)
Q406	8-729-901-47	DTA143EK
Q407	8-729-901-01	DTC144EK
Q408	8-729-901-01	DTC144EK (B)
Q450	8-729-920-74	2SC2412K-QR (B, VC)
Q451	8-729-901-01	DTC144EK (B)
Q452	8-729-901-01	DTC144EK (B)
Q453	8-729-901-01	DTC144EK
Q460	8-729-901-01	DTC144EK (B)
Q501	8-729-920-74	2SC2412K-QR
Q502	8-729-901-01	DTC144EK
Q511	8-729-901-01	DTC144EK
Q512	8-729-920-74	2SC2412K-QR
Q513	8-729-920-74	2SC2412K-QR
Q514	8-729-901-01	DTC144EK
Q515	8-729-901-01	DTC144EK
Q516	8-729-901-04	DTA114EK
Q517	8-729-901-47	DTA143EK
Q518	8-729-901-01	DTC144EK
Q651	8-729-421-19	UN2213 (VC)
Q599	8-729-900-65	DTA144ES (AEP, NC, VC)

YC-124 (VIDEO) SCHEMATIC DIAGRAM

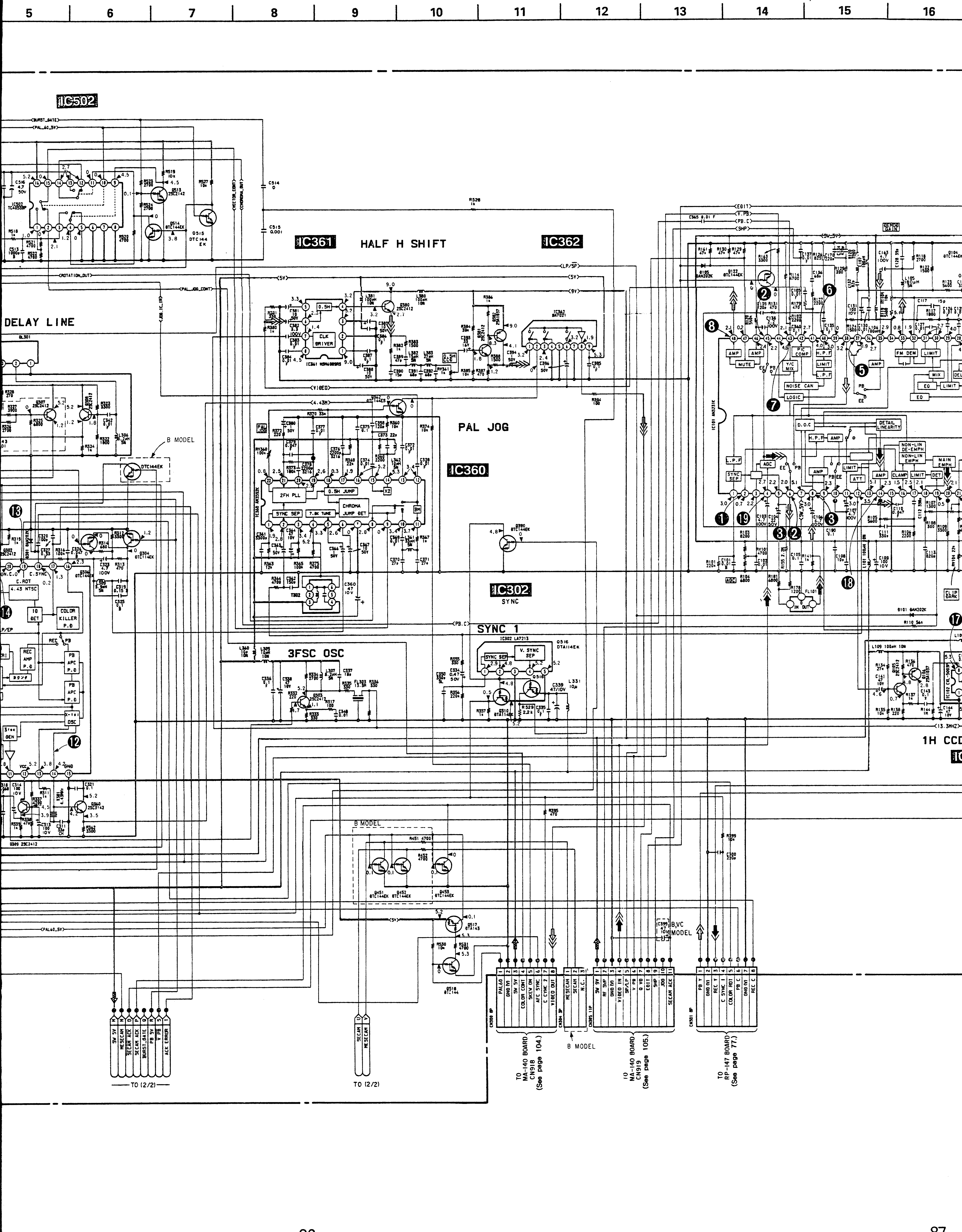


– Ref. No. YC-124 BOARD : 2,000 Series –

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
YC-124 BOARD (1/2)
NTSC PB
IC502
IC501
AEP,NC,
VC
MODEL
NTSC DELAY LINE
PAL DELAY LINE
B MODEL
PAL
CHROMA
IC301
BUFFER
2H COMB DRIVE
PB KILLER AMP
ID DET
COLOR KILLER P.D
ACC DET
VCA
MAIN CONV
APC SW
REC AMP P.D
PB APC P.D
PHASE SHIFT
BALLANCE DET
SUB CONV.
REC KILLER AMP
LPF
X-tal OSC
BPF
PAL REC C
TO (2/2)
TO (2/2)
16

• Signal palth

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC		⇛	⇛⇛	
PB		⇨	⇨⇨	


5
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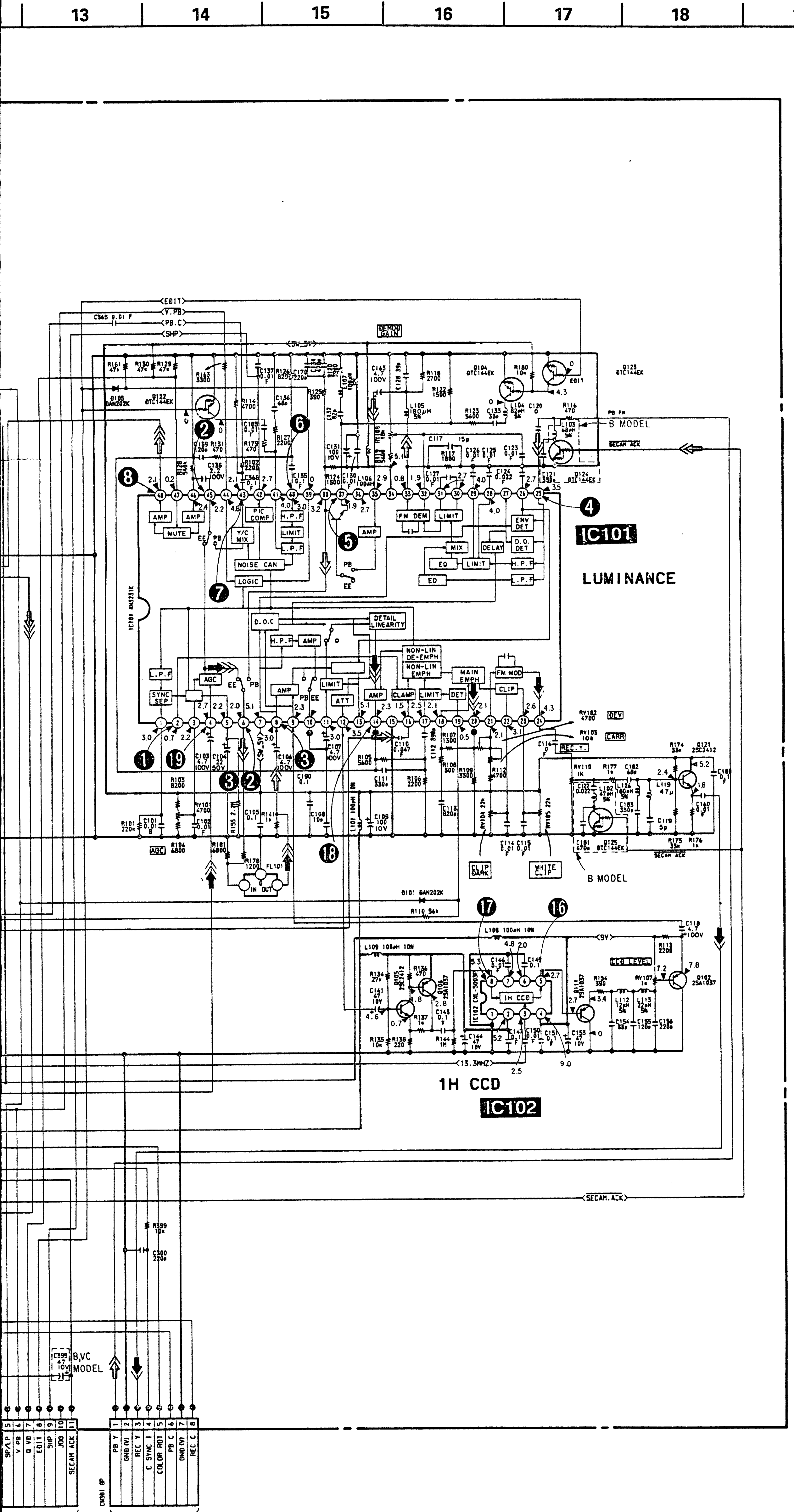
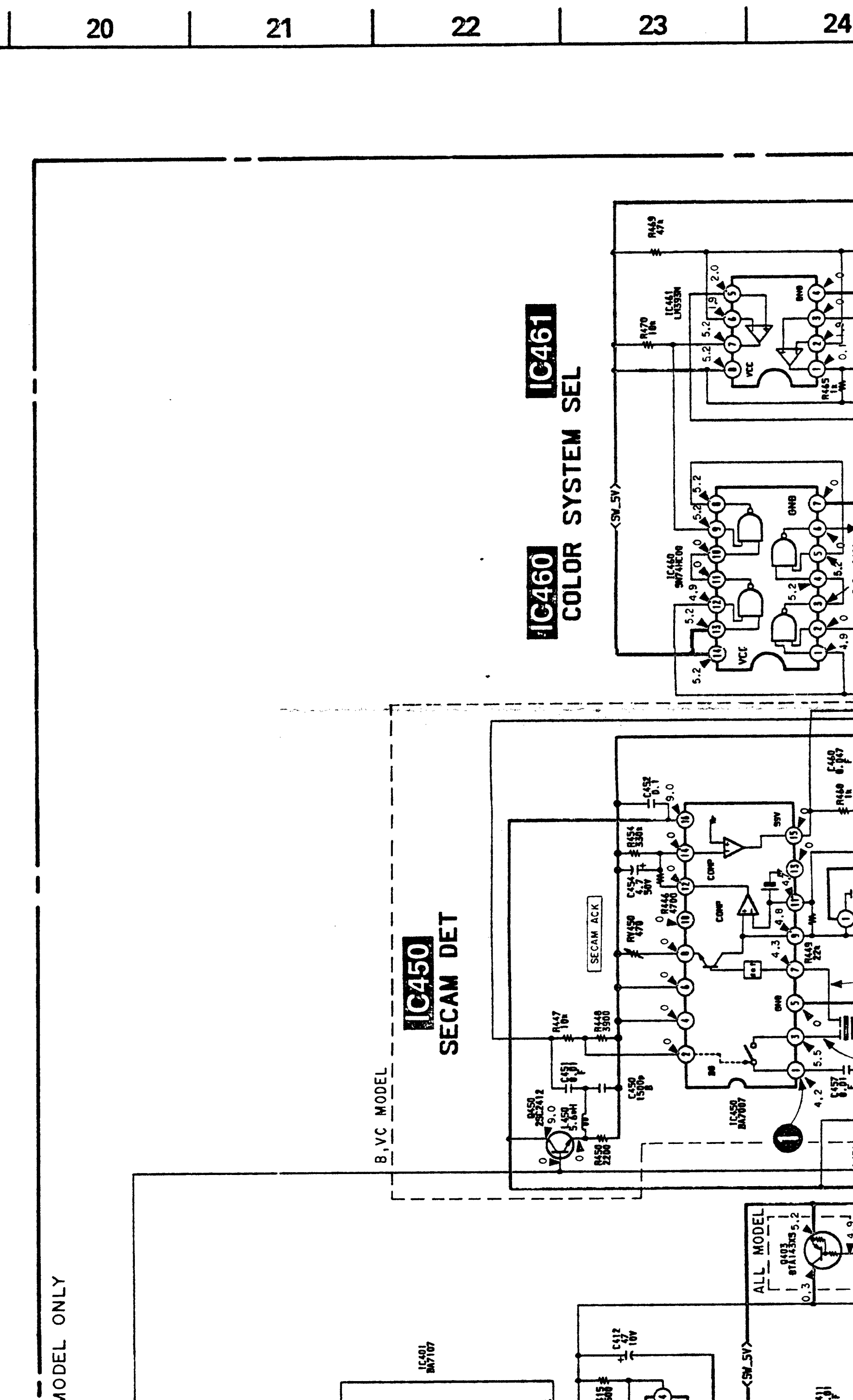
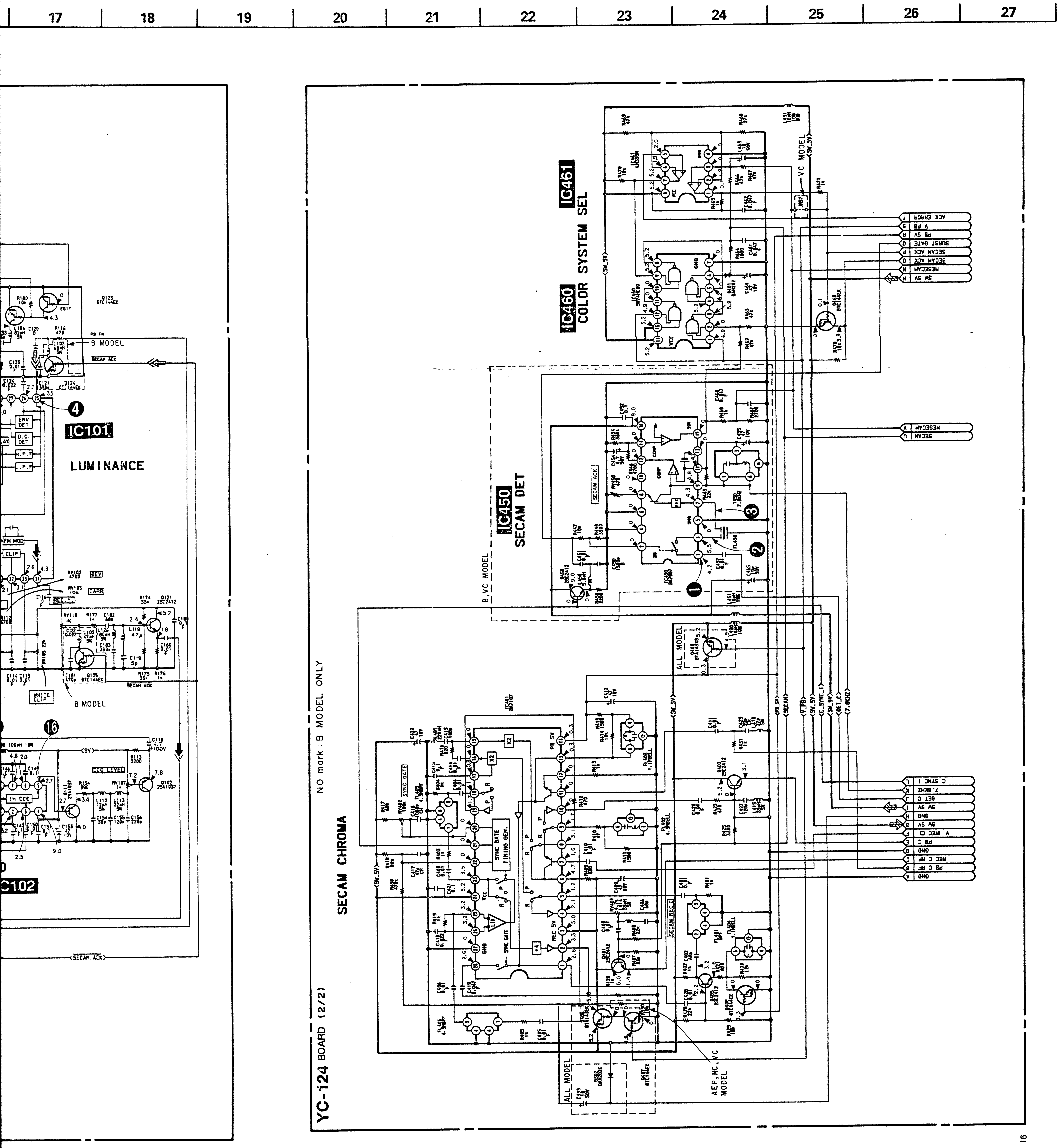
11
12
13
14
15
16
IC502
IC361
HALF H SHIFT
IC362
DELAY LINE
PAL JOG
IC360
IC302
SYNC
SYNC 1
3FSC OSC
1H CCD
B MODEL
DTC144EK
CLK DRIVER
0.5H
2FH PLL
0.5H JUMP
CHROMA JUMP DET
SYNC SEP
7.8K TUNE
V. SYNC SEP
C.ROT
4.43 NTSC
ID DET
COLOR KILLER P.D
REC AMP P.D
PB APC P.D
X-tal OSC
<BURST_GATE>
<PAL_60_5V>
<ROTATION_OUT>
<PAL_JOG_CONT>
<VECTOR_CONT>
<CHROMA_OUT>
<5V>
<9V>
<LP/SP>
<VIDEO>
<4.43M>
<PB.C>
<EDIT>
<V.PB>
<SHP>
<13.3MHZ>
AMP
MUTE
PIC COMP
Y/C MIX
NOISE CAN
LOGIC
H.P.F
LIMIT
L.P.F
FM DEM
MIX
EQ
D.O.C
DETAIL LINEARITY
NON-LIN DE-EMPH
NON-LIN EMPH
MAIN EMPH
AGC
SYNC SEP
ATT
CLAMP
DET
CLIP DARK
DEMOD GAIN
PB
EE
B,VC MODEL
CN509 8P
PAL60
GND(V)
SW 5V
COLOR CONT
SECAM ON
AFC SYNC
C.SYNC
VIDEO OUT
CN304 3P
MESECAM
SECAM
N.C.
CN505 11P
SW 5V
RF SWP
GND(V)
VIDEO IN
SP/LP
V PB
Q VD
EDIT
SWP
30G
SECAM ACK
CN501 8P
PB Y
GND(V)
REC Y
C SYNC
COLOR ROT
PB C
GND(V)
REC C
SW 5V
MESECAM
SECAM ACK
SECAM ACK
BURST_GATE
PB 5V
V PB
ACK ERROR
TO (2/2)
SECAM
MESECAM
TO (2/2)
TO MA-140 BOARD CN918 (See page 104.)
B MODEL
TO MA-140 BOARD CN919 (See page 105.)
TO RP-147 BOARD (See page 77.)

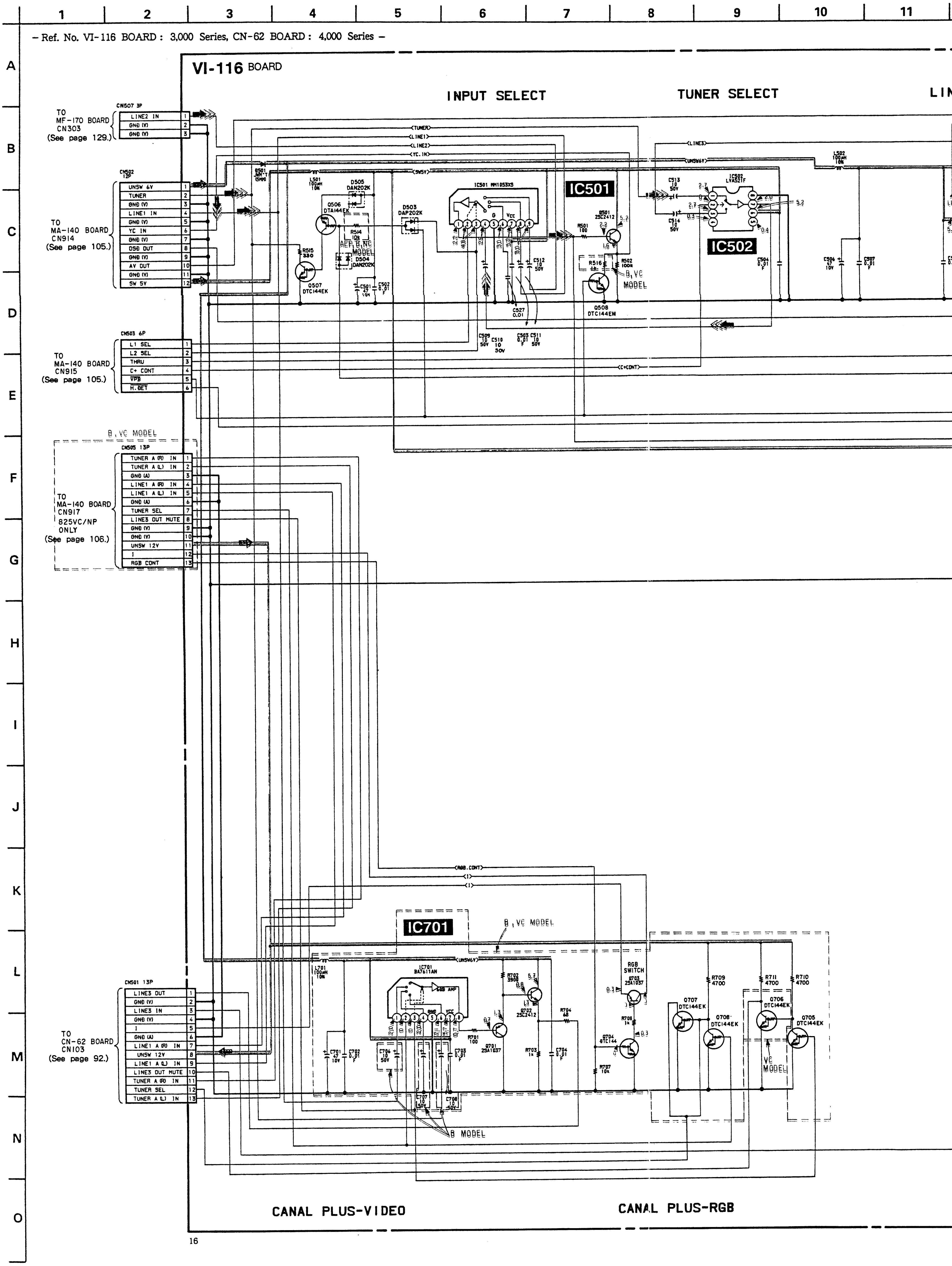

13
14
15
16
17
18
19
LUMINANCE
IC101
IC101 AN3731K
1H CCD
IC102
B MODEL
EDIT
V.PB
PB.C
SHP
SW_5V
DEMOD GAIN
SECAM.ACK
AGC
CLIP DARK
WHITE CLIP
REC.Y
DEV
CARR
CCD LEVEL
B,VC MODEL
SP/LP
V PB
Q VD
EDIT
SHP
JOG
SECAM ACK
PB Y
GND (V)
REC Y
C SYNC
COLOR ROT
PB C
GND (V)
REC C
CN301 8P
TO MA-140 BOARD CN919 (See page 105.)
TO RP-147 BOARD (See page 77.)


20
21
22
23
24
IC461
IC460 COLOR SYSTEM SEL
IC450 SECAM DET
B,VC MODEL
NO mark : B MODEL ONLY
SECAM CHROMA
YC-124 BOARD (2/2)
SYNC GATE
TIMING GEN.
SECAM ACK
SECAM REC C
ALL MODEL
AEP,NC,VC MODEL

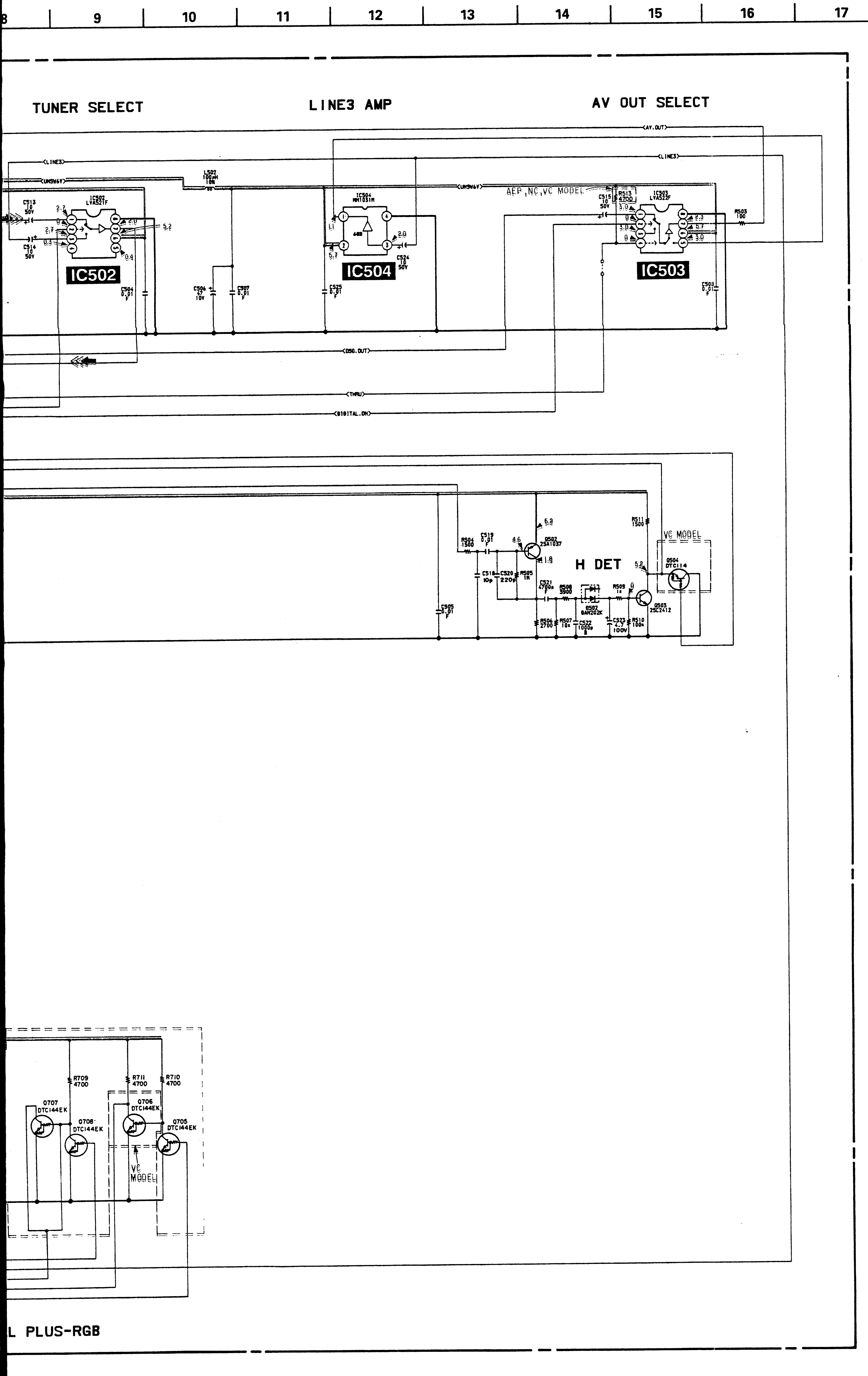

17
18
19
20
21
22
23
24
25
26
27
IC101
LUMINANCE
IC102
B MODEL
IC461
IC460 COLOR SYSTEM SEL
IC450 SECAM DET
VC MODEL
B,VC MODEL
ALL MODEL
AEP,NC,VC MODEL
SECAM CHROMA
NO mark : B MODEL ONLY
YC-124 BOARD (2/2)
ACK ERROR
V PB
PB 5V
BURST GATE
SECAM ACK P
SECAM ACK
MESECAM
SW 5V
SECAM
C SYNC I
7.8KHZ
DET C
9V SW
GND
V REC C
PB C
REC C RF
PB C RF
SECAM ACK
16

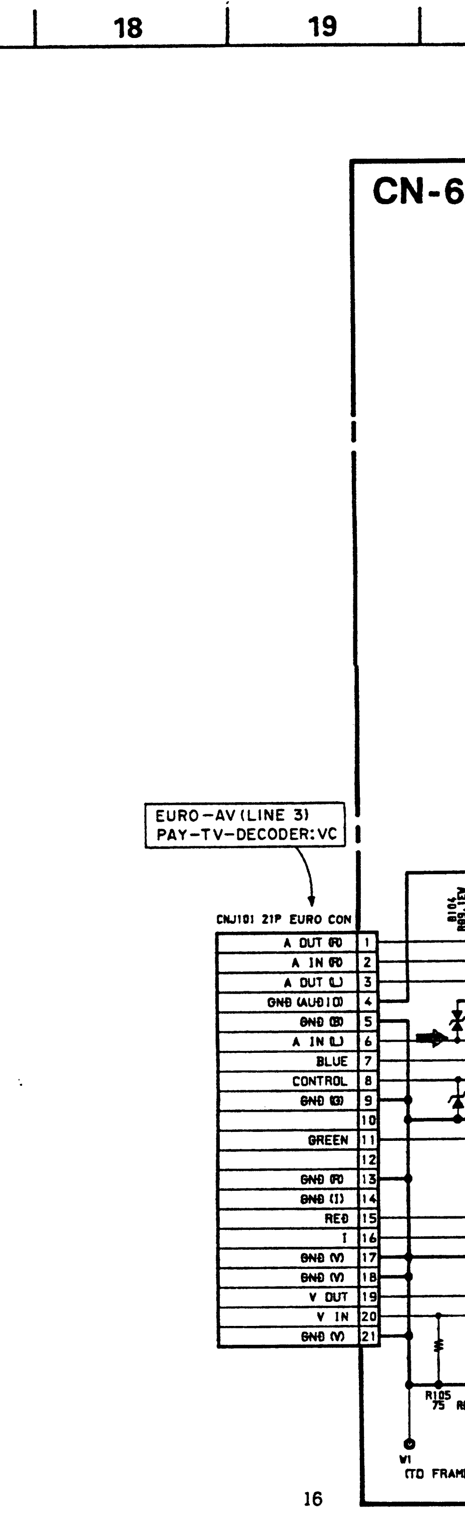
VI-116 (VIDEO INTERFACE), CN-62(VIDEO/AUDIO INTERFACE) SCHEMATIC DIAGRAMS

– Ref. No. VI-116 BOARD : 3,000 Series, CN-62 BOARD : 4,000 Series –


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
VI-116 BOARD
INPUT SELECT
TUNER SELECT
LIN
TO MF-170 BOARD CN303 (See page 129.)
CN507 3P
LINE2 IN 1
GND (V) 2
GND (V) 3
TO MA-140 BOARD CN914 (See page 105.)
CN502 12P
UNSW 6V 1
TUNER 2
GND (V) 3
LINE1 IN 4
GND (V) 5
YC IN 6
GND (V) 7
OSD OUT 8
GND (V) 9
AV OUT 10
GND (V) 11
SW 5V 12
TO MA-140 BOARD CN915 (See page 105.)
CN503 6P
L1 SEL 1
L2 SEL 2
THRU 3
C+ CONT 4
VPB 5
H.DET 6
B, VC MODEL
TO MA-140 BOARD CN917 825VC/NP ONLY (See page 106.)
CN505 13P
TUNER A (R) IN 1
TUNER A (L) IN 2
GND (A) 3
LINE1 A (R) IN 4
LINE1 A (L) IN 5
GND (A) 6
TUNER SEL 7
LINE3 OUT MUTE 8
GND (V) 9
GND (V) 10
UNSW 12V 11
I 12
RGB CONT 13
TO CN-62 BOARD CN103 (See page 92.)
CN501 13P
LINE3 OUT 1
GND (V) 2
LINE3 IN 3
GND (V) 4
I 5
GND (A) 6
LINE1 A (R) IN 7
UNSW 12V 8
LINE1 A (L) IN 9
LINE3 OUT MUTE 10
TUNER A (R) IN 11
TUNER SEL 12
TUNER A (L) IN 13
<TUNER>
<LINE1>
<LINE2>
<YC. IN>
<SWSV>
<LINE3>
<UNSW6V>
<C+CONT>
B501 JW'T (5MM)
L501 100μH 10K
D505 DAN202K
Q506 DTA144EK
R514 10k
AEP, B, NC MODEL
D504 DAN202K
R515 330
Q507 DTC144EK
C501 47 10V
C502 0.01 F
D503 DAP202K
IC501
IC501 MM1053XS
G
Vcc
2.2
4.8
2.5
3.0
5.2
3.0
C512 10 50V
C527 0.01
C509 10 50V
C510 10 50V
C503 0.01 F
C511 10 50V
R501 100
Q501 2SC2412
2.2
5.2
1.6
R516 1k
R502 100k
B, VC MODEL
Q508 DTC144EM
C513 10 50V
C514 10 50V
IC502 LVA521F
IC502
2.7
0
2.7
0.3
2.0
5.2
0.4
C504 0.01 F
L502 100μH 10K
C506 47 10V
C507 0.01 F
<RGB.CONT>
<I>
<I>
IC701
B, VC MODEL
<UNSW6V>
L701 100μH 10K
IC701 BA7611AN
RGB AMP
GND
VCC
C701 47 10V
C702 0.01 F
C706 10 50V
C703 0.01 F
C707 10 50V
C708 10 50V
B MODEL
R702 3900
5.7
0.8
1.3
Q702 2SC2412
1.3
0.7
R701 100
Q701 2SA1037
R704 68
R703 1k
C704 0.01 F
RGB SWITCH
Q703 2SA1037
0.3
R708 1k
0.3
Q704 DTC144
R707 10k
R709 4700
Q707 DTC144EK
Q708 DTC144EK
R711 4700
R710 4700
Q706 DTC144EK
Q705 DTC144EK
VC MODEL
CANAL PLUS-VIDEO
CANAL PLUS-RGB
16

INTERFACE INTERFACE

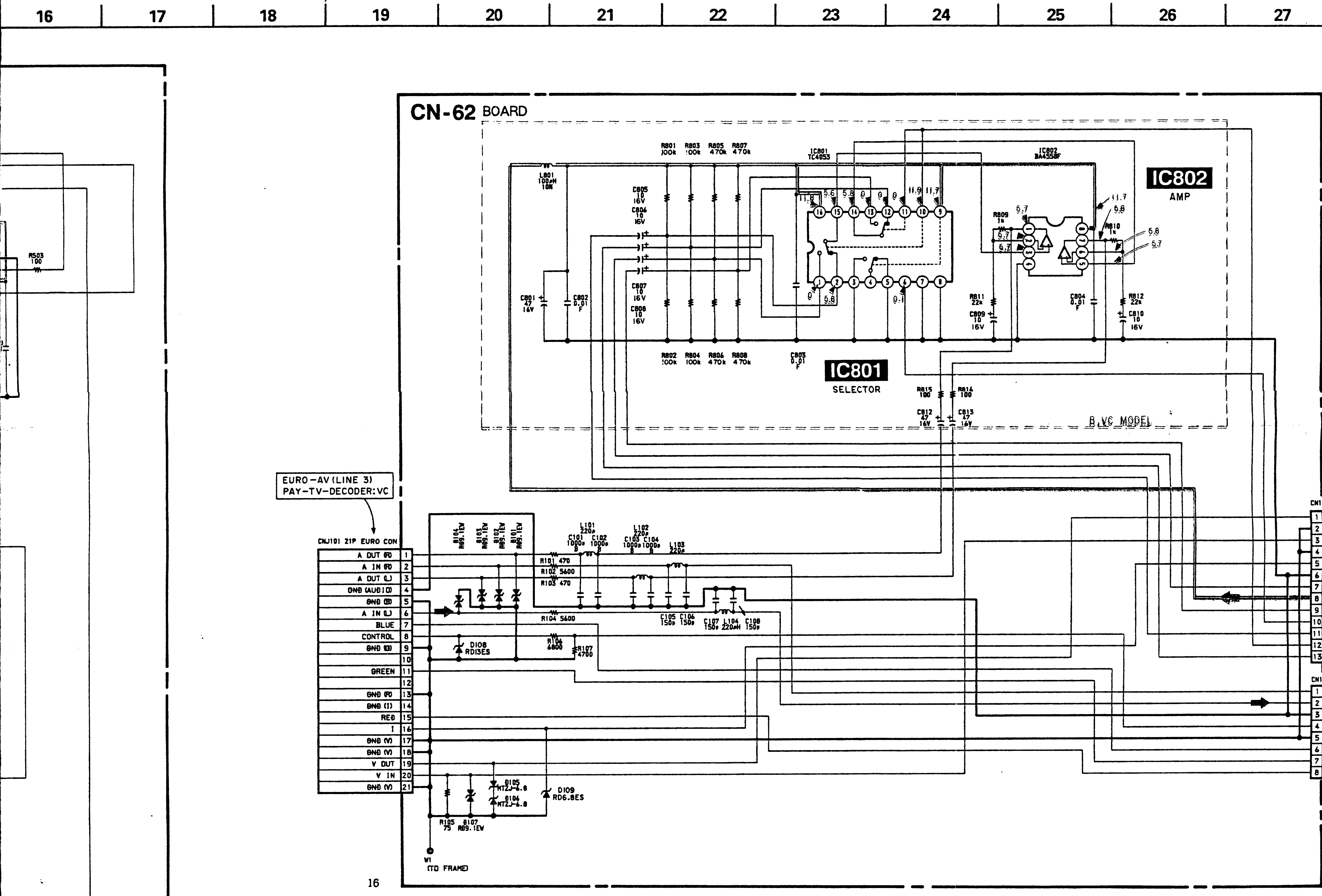

8
9
10
11
12
13
14
15
16
TUNER SELECT
LINE3 AMP
AV OUT SELECT
IC502
LVA521F
IC504
NM1031M
IC503
LVA522F
AEP, NC, VC MODEL
(AV.OUT)
(LINE3)
(UNSW6V)
(OSD.OUT)
(THRU)
(DIGITAL.ON)
L502
100μH
H DET
Q502
2SA1037
Q503
2SC2412
Q504
DTC114
D502
BAN202K
VC MODEL
R709
4700
R711
4700
R710
4700
Q707
DTC144EK
Q708
DTC144EK
Q706
DTC144EK
Q705
DTC144EK
VC
MODEL
L PLUS-RGB


17
18
19
CN-6
EURO-AV (LINE 3)
PAY-TV-DECODER:VC
CNJ101 21P EURO CON
A OUT (R) 1
A IN (R) 2
A OUT (L) 3
GND (AUDIO) 4
GND (B) 5
A IN (L) 6
BLUE 7
CONTROL 8
GND (G) 9
10
GREEN 11
12
GND (R) 13
GND (I) 14
RED 15
I 16
GND (V) 17
GND (V) 18
V OUT 19
V IN 20
GND (V) 21
R105
75
W1
(TO FRAM
16

- **Signal palth**

	VIDEO Signal		
	CHROMA	Y	Y/
REC			
PB			

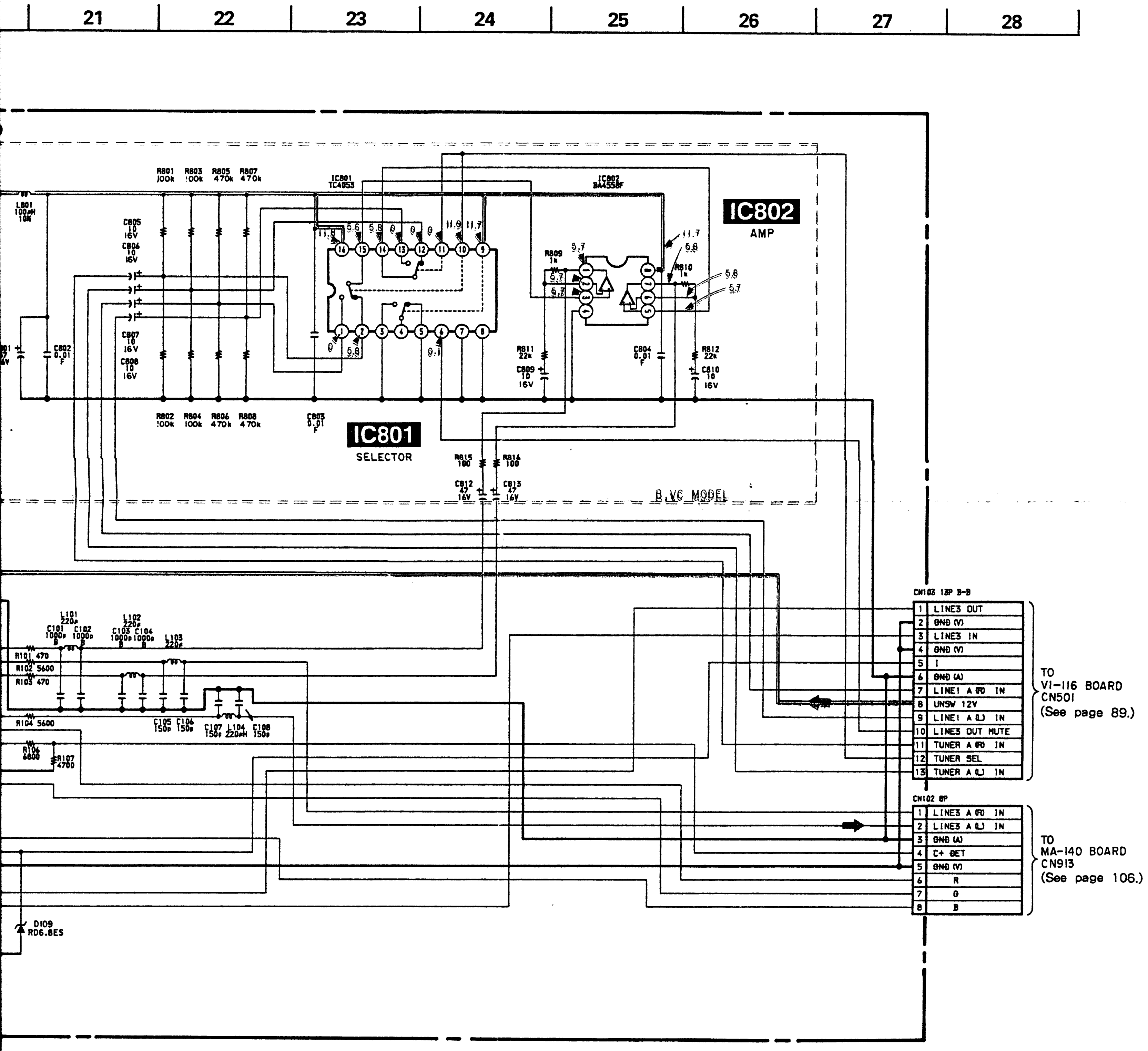
NTERFACE


16
17
18
19
20
21
22
23
24
25
26
27
CN-62 BOARD
IC801
SELECTOR
IC802
AMP
IC801 TC4053
IC802 BA4558F
R801 100k
R803 100k
R805 470k
R807 470k
R802 100k
R804 100k
R806 470k
R808 470k
L801 100μH
C801 47 16V
C802 0.01 F
C803 0.01 F
C804 0.01 F
C805 10 16V
C806 10 16V
C807 10 16V
C808 10 16V
C809 10 16V
C810 10 16V
R809 1k
R810 1k
R811 22k
R812 22k
R815 100
R816 100
C812 47 16V
C813 47 16V
B,VC MODEL
R503 100
EURO-AV (LINE 3)
PAY-TV-DECODER: VC
CNJ101 21P EURO CON
A OUT (R)
A IN (R)
A OUT (L)
GND (AUDIO)
GND (B)
A IN (L)
BLUE
CONTROL
GND (G)
GREEN
GND (R)
GND (I)
RED
I
GND (V)
GND (V)
V OUT
V IN
GND (V)
L101 220μ
L102 220μ
L103 220μ
C101 1000p
C102 1000p
C103 1000p
C104 1000p
R101 470
R102 5600
R103 470
R104 5600
R106 6800
R107 4700
C105 150p
C106 150p
C107 150p
L104 220μH
C108 150p
D101 RB9.1EV
D102 RB9.1EV
D103 RB9.1EV
D104 RB9.1EV
D108 RD13ES
D105 MTZJ-6.8
D106 MTZJ-6.8
D109 RD6.8ES
R105 75
D107 RB9.1EV
W1 (TO FRAME)
CN1
16

- **Signal palth**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡➡	➡
PB			⇨⇨	

INTERFACE INTERFACE


21
22
23
24
25
26
27
28
R801 100k
R803 100k
R805 470k
R807 470k
IC801 TC4053
IC802 BA4558F
IC802
AMP
L801 100μH 10K
C805 10 16V
C806 10 16V
C807 10 16V
C808 10 16V
C802 0.01 F
R802 100k
R804 100k
R806 470k
R808 470k
C803 0.01 F
IC801
SELECTOR
11.8
5.6
5.8
0
0
0
11.9
11.7
0
5.8
9.1
R809 1k
5.7
5.7
5.7
11.7
5.8
R810 1k
5.8
5.7
R811 22k
C809 10 16V
C804 0.01 F
R812 22k
C810 10 16V
R815 100
R816 100
C812 47 16V
C813 47 16V
B,VC MODEL
CN103 13P B-B
1 LINE3 OUT
2 GND (V)
3 LINE3 IN
4 GND (V)
5 I
6 GND (A)
7 LINE1 A (R) IN
8 UNSW 12V
9 LINE1 A (L) IN
10 LINE3 OUT MUTE
11 TUNER A (R) IN
12 TUNER SEL
13 TUNER A (L) IN
TO
VI-116 BOARD
CN501
(See page 89.)
CN102 8P
1 LINE3 A (R) IN
2 LINE3 A (L) IN
3 GND (A)
4 C+ DET
5 GND (V)
6 R
7 G
8 B
TO
MA-140 BOARD
CN913
(See page 106.)
L101 220μ
C101 1000p B
C102 1000p B
L102 220μ
C103 1000p B
C104 1000p B
L103 220μ
R101 470
R102 5600
R103 470
R104 5600
C105 150p
C106 150p
C107 150p
L104 220μH
C108 150p
R106 6800
R107 4700
D109 RD6.8ES

AUDIO Signal
➡

INTERFACE INTERFACE

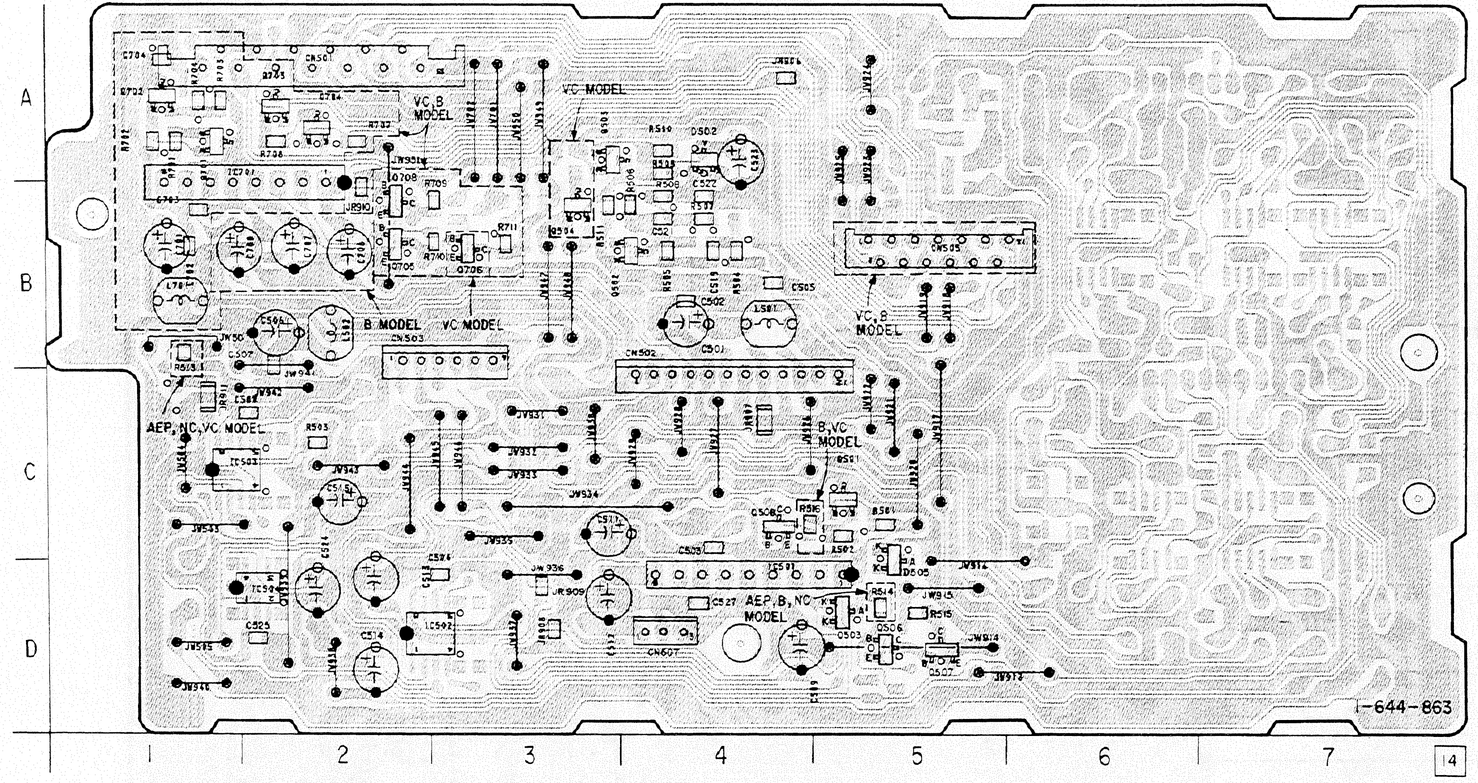
VI-116 (VIDEO INTERFACE) , CN-62(VIDEO/AUDIO INTERFACE), DI-43(RELAY) PRINTED WIRING BOARDS

– Ref. No. VI-116 BOARD : 3,000 Series, CN-62 BOARD : 4,000 Series, DI-43 BOARD : 5,000 Series –

VI-116 BOARD

D502	A-4
D503	D-5
D505	D-5
IC501	D-4
IC502	D-2
IC503	C-1
IC504	D-2
IC701	A-1
Q501	C-5
Q502	B-4
Q503	A-3
Q504	B-3
Q506	D-5
Q507	D-5
Q508	C-4
Q701	A-1
Q702	A-1
Q703	A-2
Q704	A-2
Q705	B-2
Q706	B-3
Q708	B-2

VI-116 BOARD


A
B
C
D
1
2
3
4
5
6
7
14
VC,B MODEL
VC MODEL
B MODEL
VC MODEL
VC,B MODEL
AEP,NC,VC MODEL
B,VC MODEL
AEP,B,NC MODEL
CN501
CN502
CN503
CN505
IC701
IC503
IC502
IC504
IC501
1-644-863

DIODE

D502	8-719-400-18	MA152WK
D503	8-719-104-34	1S2836
D505	8-719-400-18	MA152WK

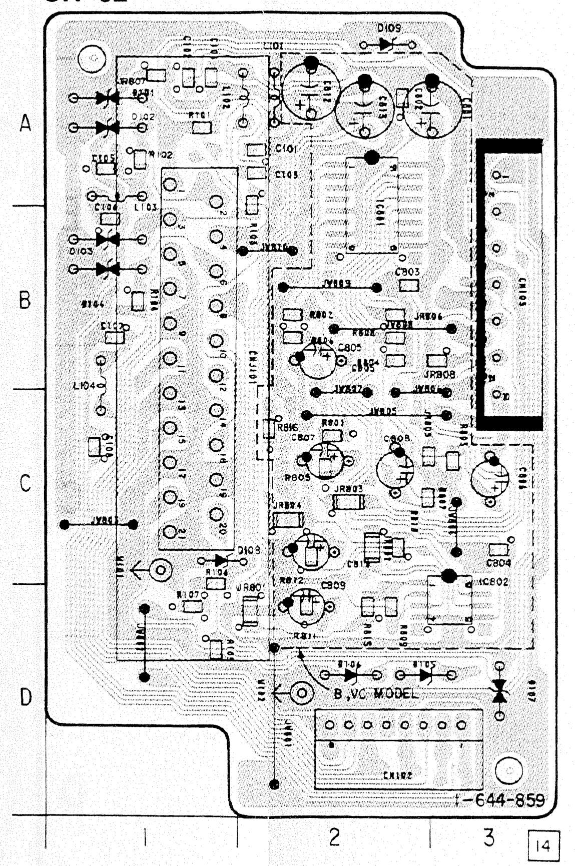
IC

IC501	8-759-503-52	MN1053XS
IC502	8-759-048-09	MN1148XF
IC503	8-759-048-09	MN1148XF (AEP, NC, VC)
IC503	8-759-501-21	MN1149XF (B)
IC504	8-759-504-44	MN1031XMR
IC701	8-759-056-91	BA7611AN (B, VC)

TRANSISTOR

Q501	8-729-120-28	2SC1623-L5L6
Q502	8-729-216-22	2SA1162
Q503	8-729-120-28	2SC1623-L5L6
Q504	8-729-900-53	DTC114EK (VC)
Q506	8-729-901-06	DTA144EK
Q507	8-729-901-01	DTC144EK
Q508	8-729-901-01	DTC144EK
Q701	8-729-216-22	2SA1162 (B, VC)
Q702	8-729-120-28	2SC1623-L5L6 (B, VC)
Q703	8-729-216-22	2SA1162 (B, VC)
Q704	8-729-901-01	DTC144EK (B, VC)
Q705	8-729-901-01	DTC144EK (B, VC)
Q706	8-729-901-01	DTC144EK (VC)
Q708	8-729-901-01	DTC144EK (B, VC)

CN-62 BOARD


A
B
C
D
1
2
3
14
B,VC MODEL
CNJ101
CN102
IC801
IC802
1-644-859

CNJ101
EURO AV (LINE 3)
CANAL PLUS ←VC MODEL
PAY TV DECODER ←NP MODEL

CN-62 BOARD

D101	A-1
D102	A-1
D103	B-1
D104	B-1
D105	D-2
D106	D-2
D107	D-3
D108	C-2
D109	A-2
IC801	B-2
IC802	D-3

DIODE

D101	8-719-108-12	RD9.1E-W
D102	8-719-108-12	RD9.1E-W
D103	8-719-108-12	RD9.1E-W
D104	8-719-108-12	RD9.1E-W
D105	8-719-109-97	RD6.8ES-B2
D106	8-719-109-97	RD6.8ES-B2
D107	8-719-108-12	RD9.1E-W
D108	8-719-110-36	RD13ES-B2
D109	8-719-109-97	RD6.8ES-B2

IC

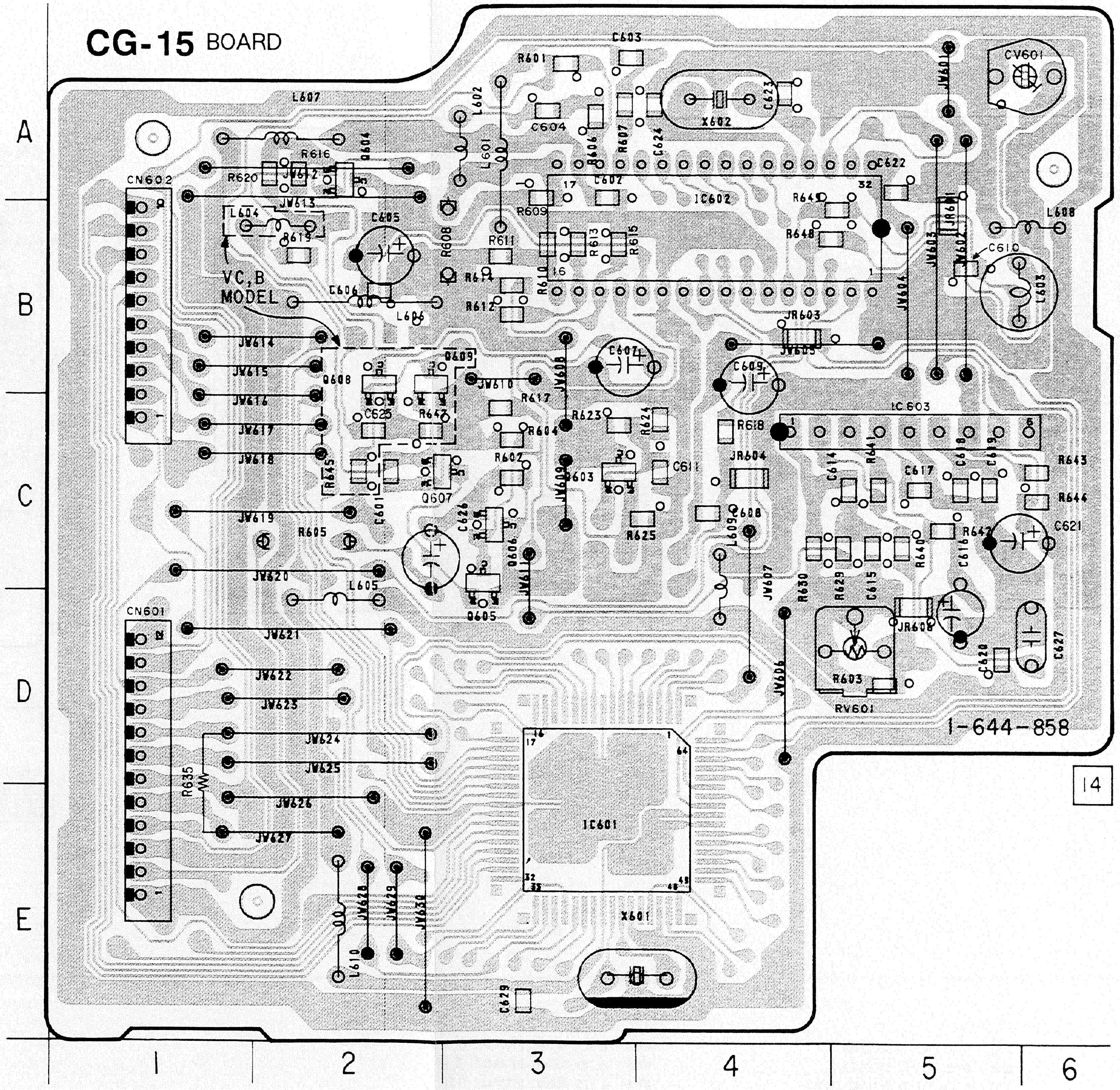
IC801	8-759-300-71	TC4053BF (B, VC)
IC802	8-759-909-71	BA4558F (B, VC)

CG-15 (DISPLAY CONTROLLER) PRINTED WIRING BOARD

– Ref. No. CG-15 BOARD : 6,000 Series –

CG-15 BOARD

IC601	E-3
IC602	B-4
IC603	C-5
Q603	C-3
Q604	A-2
Q605	D-3
Q606	C-3
Q607	C-2
Q608	B-2
Q609	B-2

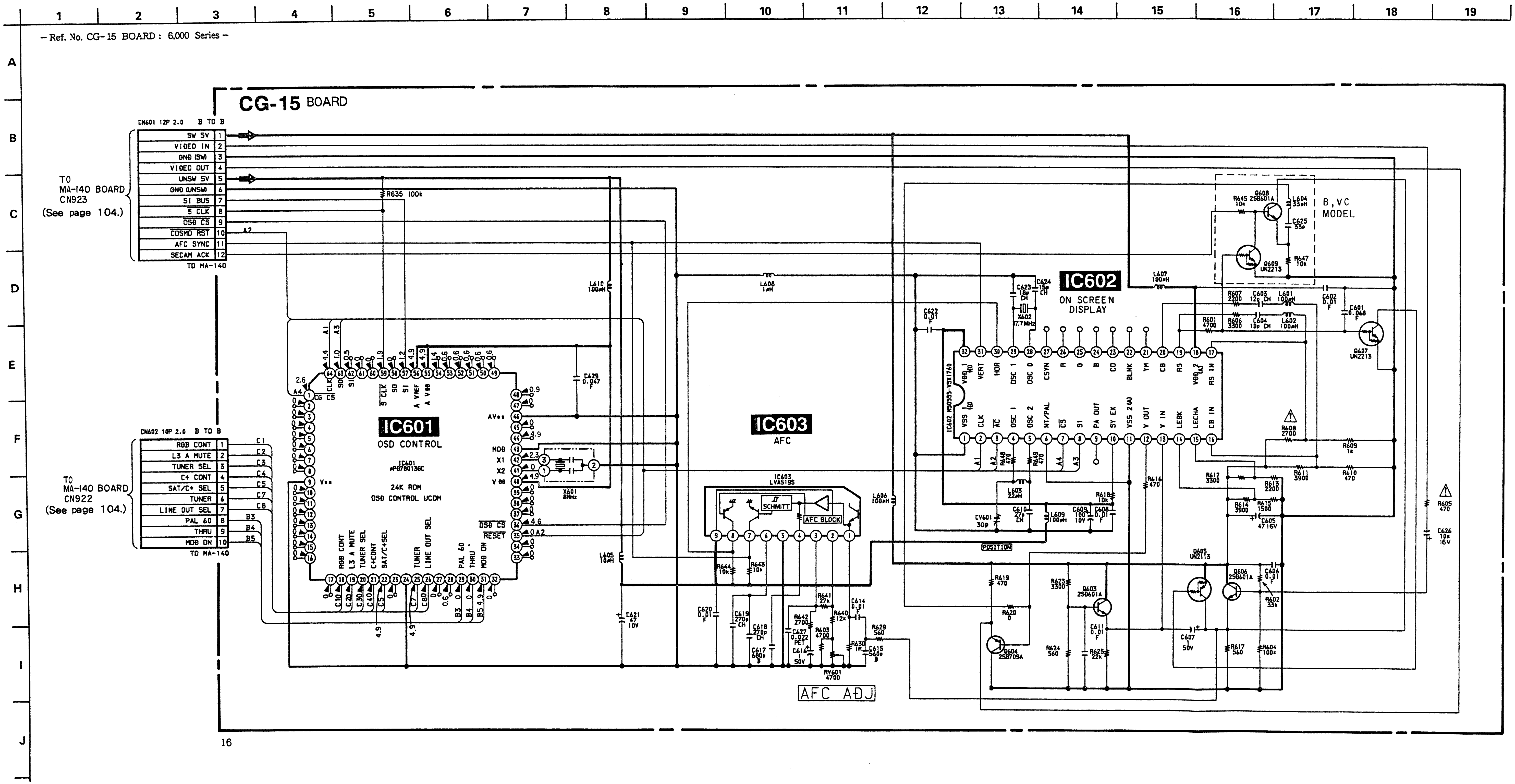

CG-15 BOARD
A
B
C
D
E
1
2
3
4
5
6
CN602
CN601
IC601
IC602
IC603
X601
X602
CV601
RV601
VC, B
MODEL
1-644-858
14

16

TRANSISTOR

Q603	8-729-422-28	2SD601A-R
Q604	8-729-422-37	2SB709A-R
Q605	8-729-901-06	DTA144EK (AEP, NC, VC)
Q605	8-729-424-18	UN2113 (B)
Q606	8-729-422-28	2SD601A-R
Q607	8-729-901-01	DTC144EK (AEP, NC, VC)
Q607	8-729-421-19	UN2213 (B)
Q608	8-729-422-28	2SD601A-R (B, VC)
Q609	8-729-421-19	UN2213 (B)
Q609	8-729-901-01	DTC144EK (VC)

CG-15 (DISPLAY CONTROLLER) SCHEMATIC DIAGRAM



– Ref. No. CG-15 BOARD : 6,000 Series –

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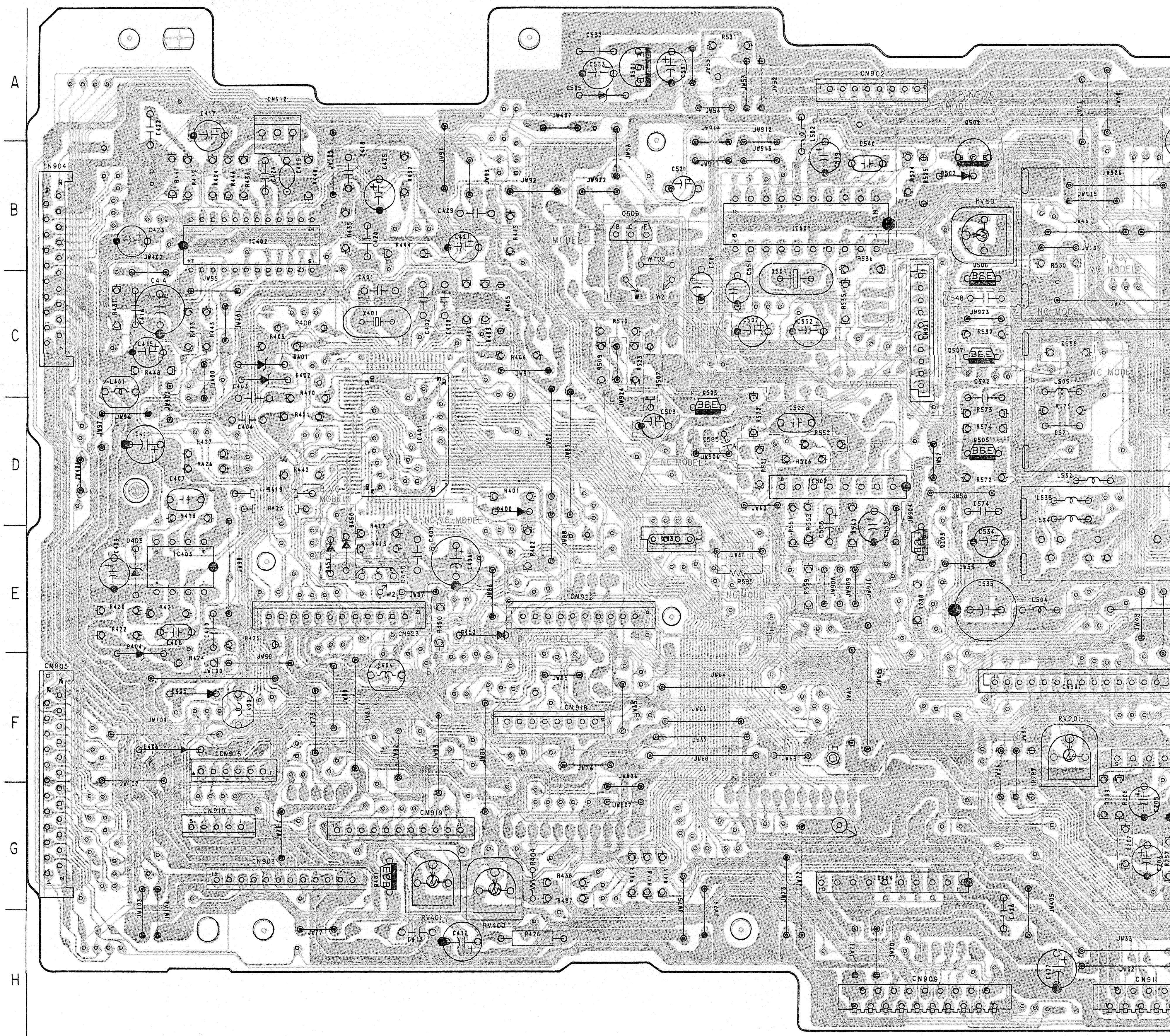
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
CG-15 BOARD
CN601 12P 2.0 B TO B
SW 5V
VIDEO IN
GND (SW)
VIDEO OUT
UNSW 5V
GND (UNSW)
SI BUS
S CLK
OSD CS
COSMO RST
AFC SYNC
SECAM ACK
TO MA-140
TO MA-140 BOARD CN923 (See page 104.)
CN602 10P 2.0 B TO B
RGB CONT
L3 A MUTE
TUNER SEL
C+ CONT
SAT/C+ SEL
TUNER
LINE OUT SEL
PAL 60
THRU
MDB ON
TO MA-140 BOARD CN922 (See page 104.)
R635 100k
IC601
OSD CONTROL
IC601 μPD780136C
24K ROM
OSD CONTROL UCOM
X601 8MHz
C629 0.047 F
L610 100μH
L608 1μH
IC603
AFC
IC603 LVA515S
SCHMITT
AFC BLOCK
L606 100μH
L605 10μH
C621 47 10V
AFC ADJ
RV601 4700
IC602
ON SCREEN DISPLAY
IC602 M50555-VSX1760
X602 17.7MHz
L607 100μH
B,VC MODEL
Q608 2SB601A
Q609 UN2213
Q607 UN2213
Q605 UN2113
Q606 2SB601A
Q603 2SB601A
Q604 2SB709A
CV601 30p
POSITION
L603 22μH
L609 100μH
R605 470
C626 10μ 16V
16

MA-140 (SERVO, SYSTEM CONTROL, MECHANISM DRIVE, AMP) PRINTED WIRING BOARDS

– Ref. No. MA-140 BOARD : 8,000 Series, VP-33 BOARD : 9,000 Series –

MA-140 BOARD



DIODE

D301	8-719-987-06	WG713A (AEP, NC, VC)
D301	8-719-911-19	1SS119 (B)
D302	8-719-987-06	WG713A (AEP, NC, VC)
D302	8-719-911-19	1SS119 (B)
D303	8-719-109-97	RD6. 8ES-B2
D304	8-719-109-97	RD6. 8ES-B2
D400	8-719-987-06	WG713A (AEP, NC, VC)
D400	8-719-911-19	1SS119 (B)
D401	8-719-109-93	RD6. 2ES-B2
D402	8-719-109-93	RD6. 2ES-B2
D403	8-719-982-11	MTZJ-T-77-4. 3B (AEP, NC, VC)
D403	8-719-109-75	RD4. 3ES-B2 (B)
D404	8-719-010-34	UZ-4. 7BSC (AEP, NC, VC)
D404	8-719-109-81	RD4. 7ES-B2 (B)
D405	8-719-987-06	WG713A (AEP, NC, VC)
D405	8-719-911-19	1SS119 (B)
D406	8-719-974-59	1SR139-100 (AEP, NC, VC)
D406	8-719-200-82	11ES2 (B)
D450	8-719-911-19	1SS119 (B)
D450	8-719-987-06	WG713A (VC)
D451	8-719-911-19	1SS119 (B)
D451	8-719-987-06	WG713A (VC)
D452	8-719-911-19	1SS119 (B)
D452	8-719-987-06	WG713A (VC)
D502	8-719-987-06	WG713A (AEP, NC, VC)
D502	8-719-911-19	1SS119 (B)
D505	8-719-982-26	MTZJ-33B (AEP, NC, VC)
D505	8-719-110-78	RD33ES-B2 (B)
D506	8-719-974-59	1SR139-100 (NC)
D901	8-719-974-59	1SR139-100 (AEP, NC, VC)
D901	8-719-200-82	11ES2 (B)
D902	8-719-108-12	RD9. 1E-W
D903	8-719-109-97	RD6. 8ES-B2
D904	8-719-109-97	RD6. 8ES-B2
D905	8-719-921-88	MTZJ-13B (AEP, NC, VC)
D905	8-719-110-36	RD13ES-B2 (B)
D906	8-719-109-97	RD6. 8ES-B2
D907	8-719-108-12	RD9. 1E-W
D910	8-719-108-12	RD9. 1E-W
D911	8-719-108-12	RD9. 1E-W
D912	8-719-109-97	RD6. 8ES-B2
D913	8-719-108-12	RD9. 1E-W
D920	8-719-108-12	RD9. 1E-W (AEP, NC, VC)
D921	8-719-108-12	RD9. 1E-W (AEP, NC, VC)
D922	8-719-108-12	RD9. 1E-W (AEP, NC, VC)

IC

IC201	8-759-520-50	BH7733S
IC202	8-759-961-38	BA6138
IC203	8-759-140-53	MC14053BCP
IC204	8-759-945-58	RC4558P
IC401	8-752-836-00	CXP80724-040Q
IC402	8-759-246-14	TA8823N
IC403	8-759-503-91	TL082ACP
⚠IC404	8-759-983-45	BA6238A
IC501	8-759-512-95	TDA8415 (AEP, NC, VC)
IC502	8-759-602-48	M5201L (B)
IC701	8-759-805-20	LA7297
IC702	8-759-602-48	M5201L (B, VC)

TRANSISTOR

Q101	8-729-423-42	2SA1309A-R
Q102	8-729-423-42	2SA1309A-R
Q103	8-729-900-89	DTC144ES
Q104	8-729-423-42	2SA1309A-R
Q105	8-729-900-89	DTC144ES
Q109	8-729-423-42	2SA1309A-R
Q202	8-729-119-78	2SC2785-HFE
Q203	8-729-900-89	DTC144ES
Q220	8-729-119-78	2SC2785-HFE
Q247	8-729-119-78	2SC2785-HFE (B, VC)
Q270	8-729-119-78	2SC2785-HFE
Q297	8-729-119-78	2SC2785-HFE (B, VC)
Q298	8-729-900-89	DTC144ES
Q301	8-729-119-78	2SC2785-HFE
Q302	8-729-900-65	DTA144ES
Q303	8-729-900-89	DTC144ES
Q304	8-729-119-78	2SC2785-HFE
Q305	8-729-900-80	DTC114ES
Q306	8-729-423-42	2SA1309A-R
Q401	8-729-422-71	UN411L
Q450	8-	
Q501	8-	
Q502	8-7	
Q503	8-	
Q505	8-	
Q507	8-7	
Q508	8-7	
Q509	8-7	
Q701	8-7	

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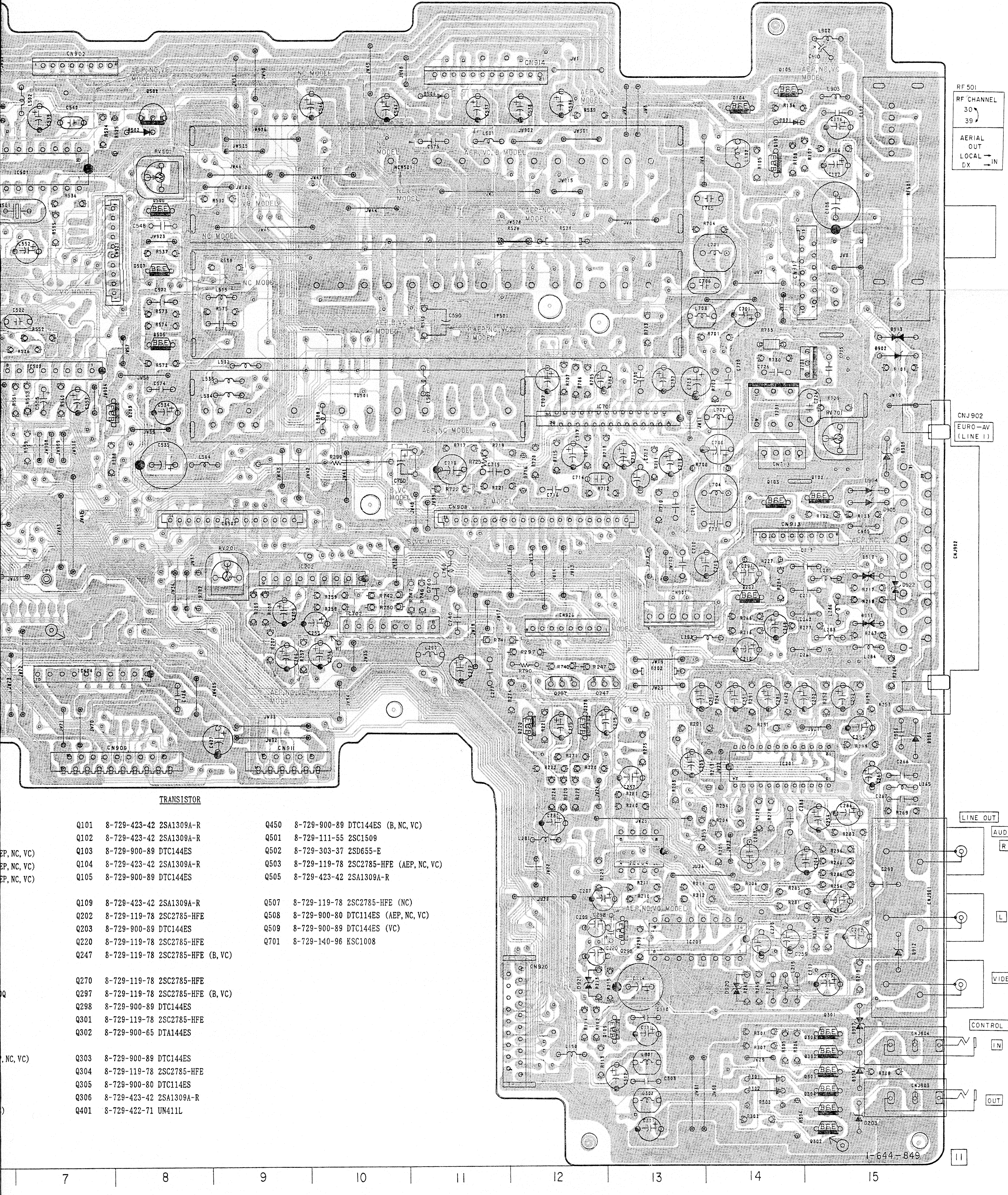
RF 501
RF CHANNEL
30
39
AERIAL
OUT
LOCAL → IN
DX
CNJ902
EURO-AV
(LINE 1)
LINE OUT
AUD
R
L
VIDE
CONTROL
IN
OUT
CNJ904
CNJ903
1-644-849
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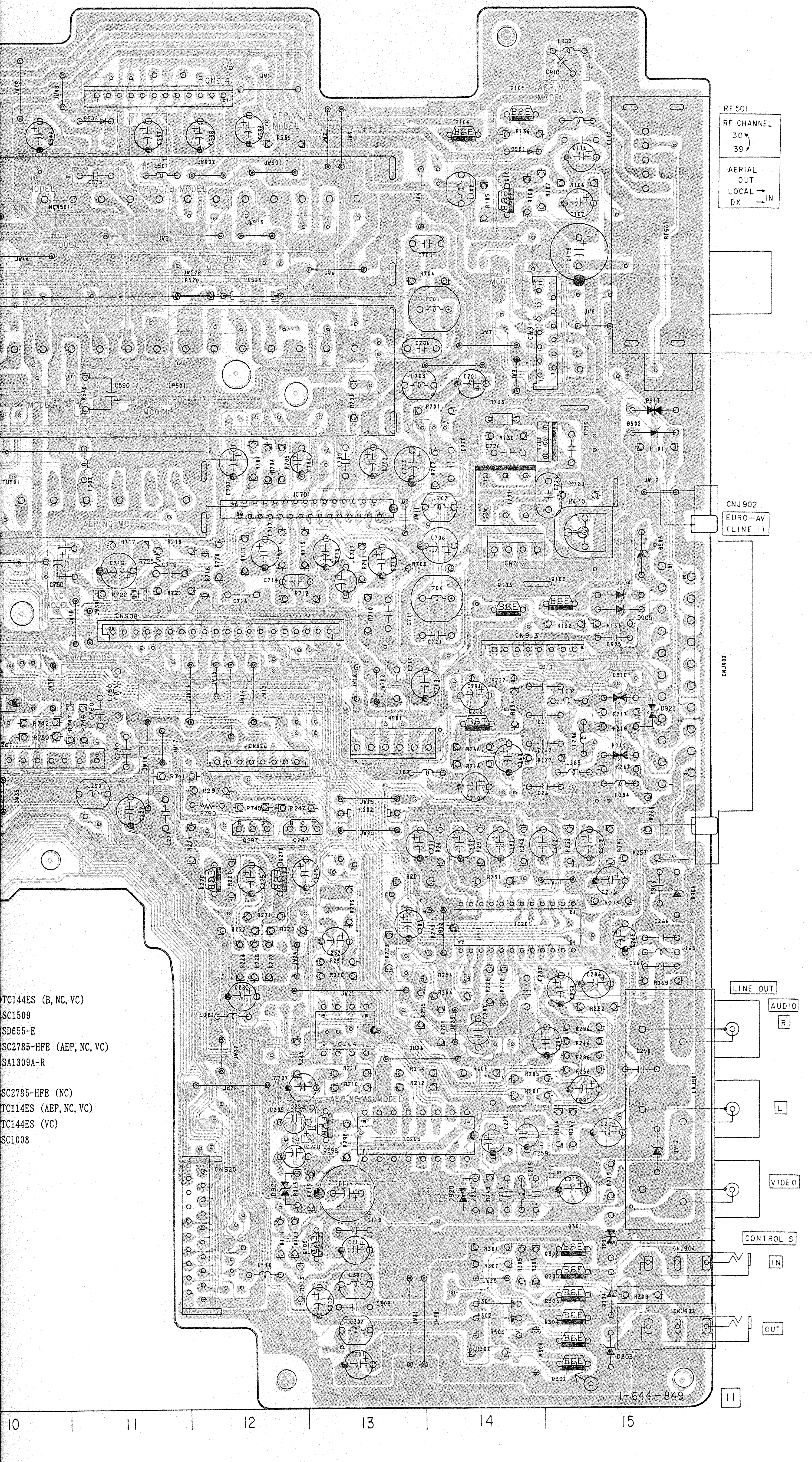
TRANSISTOR

	Q101	8-729-423-42 2SA1309A-R	Q450	8-729-900-89 DTC144ES (B, NC, VC)
	Q102	8-729-423-42 2SA1309A-R	Q501	8-729-111-55 2SC1509
EP, NC, VC)	Q103	8-729-900-89 DTC144ES	Q502	8-729-303-37 2SD655-E
EP, NC, VC)	Q104	8-729-423-42 2SA1309A-R	Q503	8-729-119-78 2SC2785-HFE (AEP, NC, VC)
EP, NC, VC)	Q105	8-729-900-89 DTC144ES	Q505	8-729-423-42 2SA1309A-R
	Q109	8-729-423-42 2SA1309A-R	Q507	8-729-119-78 2SC2785-HFE (NC)
	Q202	8-729-119-78 2SC2785-HFE	Q508	8-729-900-80 DTC114ES (AEP, NC, VC)
	Q203	8-729-900-89 DTC144ES	Q509	8-729-900-89 DTC144ES (VC)
	Q220	8-729-119-78 2SC2785-HFE	Q701	8-729-140-96 KSC1008
	Q247	8-729-119-78 2SC2785-HFE (B, VC)		
	Q270	8-729-119-78 2SC2785-HFE		
Q	Q297	8-729-119-78 2SC2785-HFE (B, VC)		
	Q298	8-729-900-89 DTC144ES		
	Q301	8-729-119-78 2SC2785-HFE		
	Q302	8-729-900-65 DTA144ES		
, NC, VC)	Q303	8-729-900-89 DTC144ES		
	Q304	8-729-119-78 2SC2785-HFE		
	Q305	8-729-900-80 DTC114ES		
	Q306	8-729-423-42 2SA1309A-R		
)	Q401	8-729-422-71 UN411L		


RF 501
RF CHANNEL
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39
AERIAL
OUT
LOCAL
DX
IN
CNJ902
EURO-AV
(LINE 1)
LINE OUT
AUDIO
R
L
VIDEO
CONTROL S
IN
OUT
1-644-849
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TC144ES (B, NC, VC)
SC1509
SD655-E
SC2785-HFE (AEP, NC, VC)
SA1309A-R

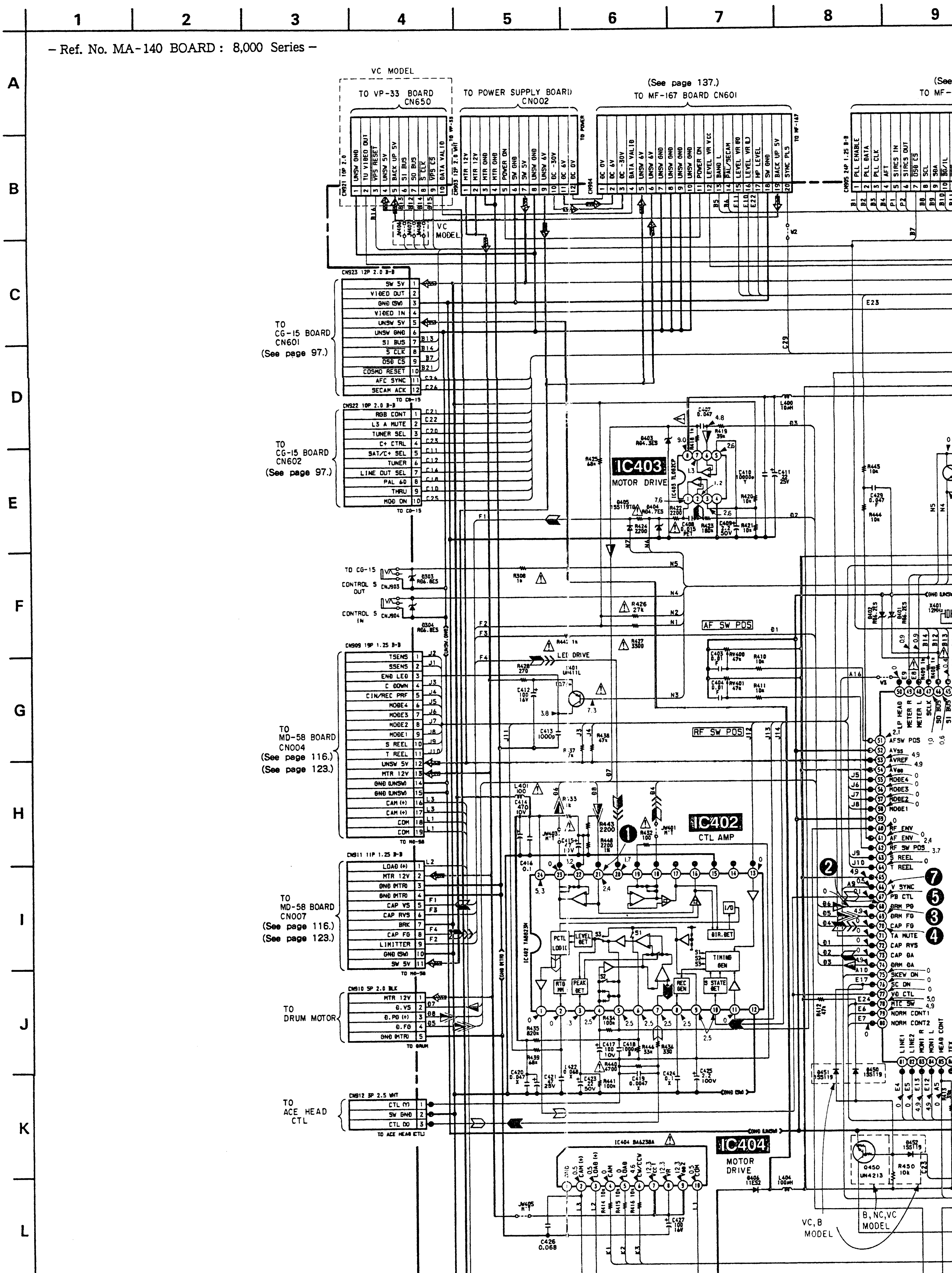
SC2785-HFE (NC)
TC114ES (AEP, NC, VC)
TC144ES (VC)
SC1008

MA-140 BOARD

D301	K-14	IC404	G-7
D302	L-14	IC501	B-6
D304	K-15	IC502	D-7
D400	D-4	IC701	D-12
D401	C-3	IC702	F-10
D402	C-3		
D403	E-1	Q101	B-14
D404	E-1	Q102	E-15
D405	F-2	Q103	E-14
D406	F-1	Q104	A-14
D450	D-3	Q105	A-14
D451	E-3	Q109	K-12
D452	E-4	Q202	F-14
D502	B-8	Q203	D-8
D505	A-5	Q220	H-12
D506	A-11	Q247	G-12
D901	B-14	Q270	G-12
D902	D-15	Q297	G-12
D903	E-15	Q298	J-13
D904	E-15	Q301	K-15
D905	F-15	Q302	L-15
D906	H-15	Q303	K-15
D907	K-15	Q304	L-15
D910	F-15	Q305	K-15
D911	G-15	Q306	K-15
D912	J-15	Q401	G-13
D913	D-15	Q450	E-3
		Q501	A-5
IC201	H-14	Q502	A-8
IC202	F-9	Q503	C-6
IC203	J-13	Q505	D-8
IC204	I-13	Q507	C-8
IC401	D-4	Q508	B-8
IC402	B-2	Q701	D-14
IC403	E-2		

MA-140 (SERVO, SYSTEM CONTROL, MECHANISM DRIVE) SCHEMATIC DIAGRAM

– Ref. No. MA-140 BOARD : 8,000 Series –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A
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K
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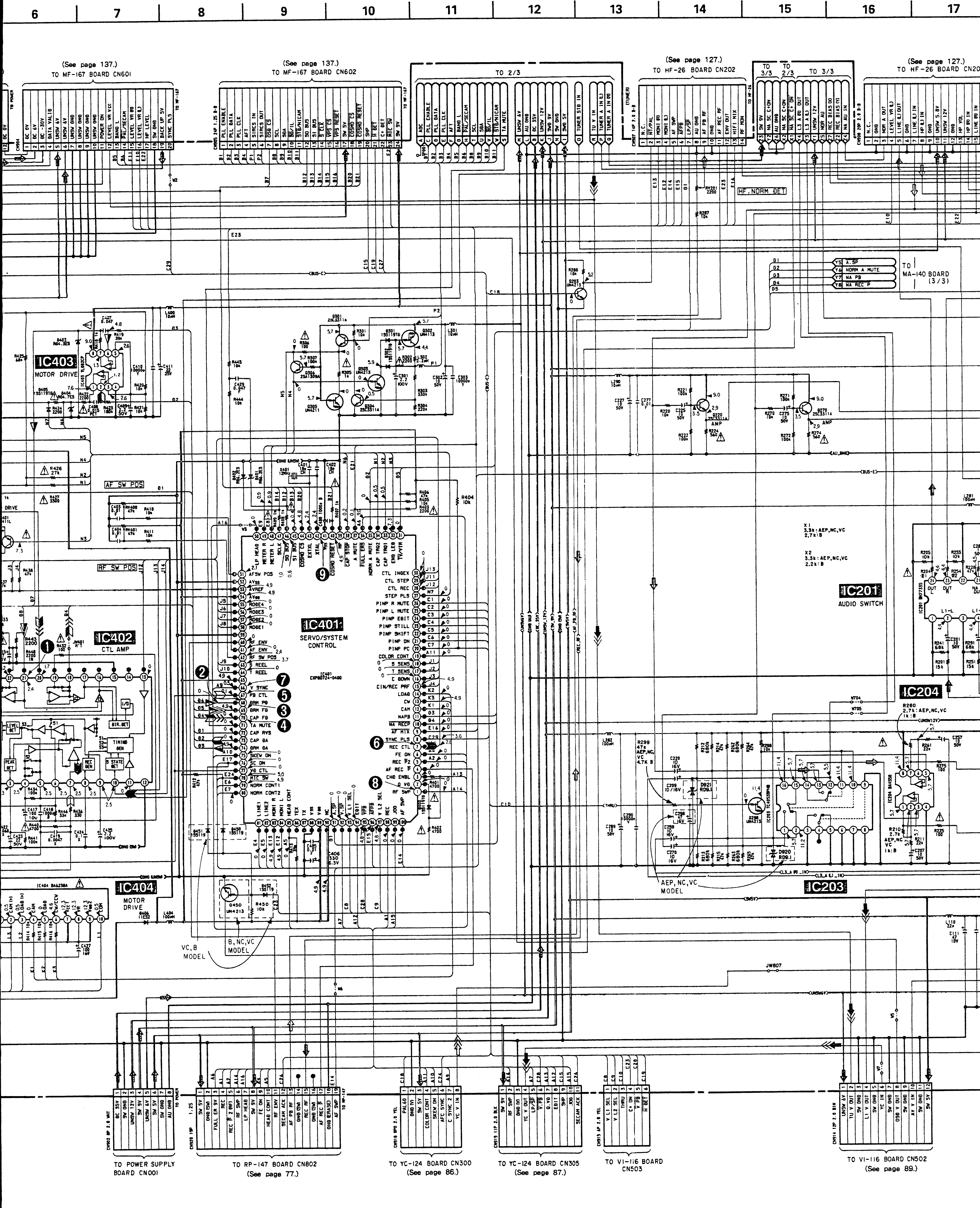
M
N
O
VC MODEL
TO VP-33 BOARD CN650
TO POWER SUPPLY BOARD CN002
(See page 137.)
TO MF-167 BOARD CN601
TO CG-15 BOARD CN601 (See page 97.)
TO CG-15 BOARD CN602 (See page 97.)
TO MD-58 BOARD CN004 (See page 116.) (See page 123.)
TO MD-58 BOARD CN007 (See page 116.) (See page 123.)
TO DRUM MOTOR
TO ACE HEAD CTL
IC403 MOTOR DRIVE
IC402 CTL AMP
IC404 MOTOR DRIVE
LED DRIVE
AF SW POS
RF SW POS
VC,B MODEL
B,NC,VC MODEL
TO POWER SUPPLY BOARD CN001
TO RP-147 BOARD (See page 77.)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14
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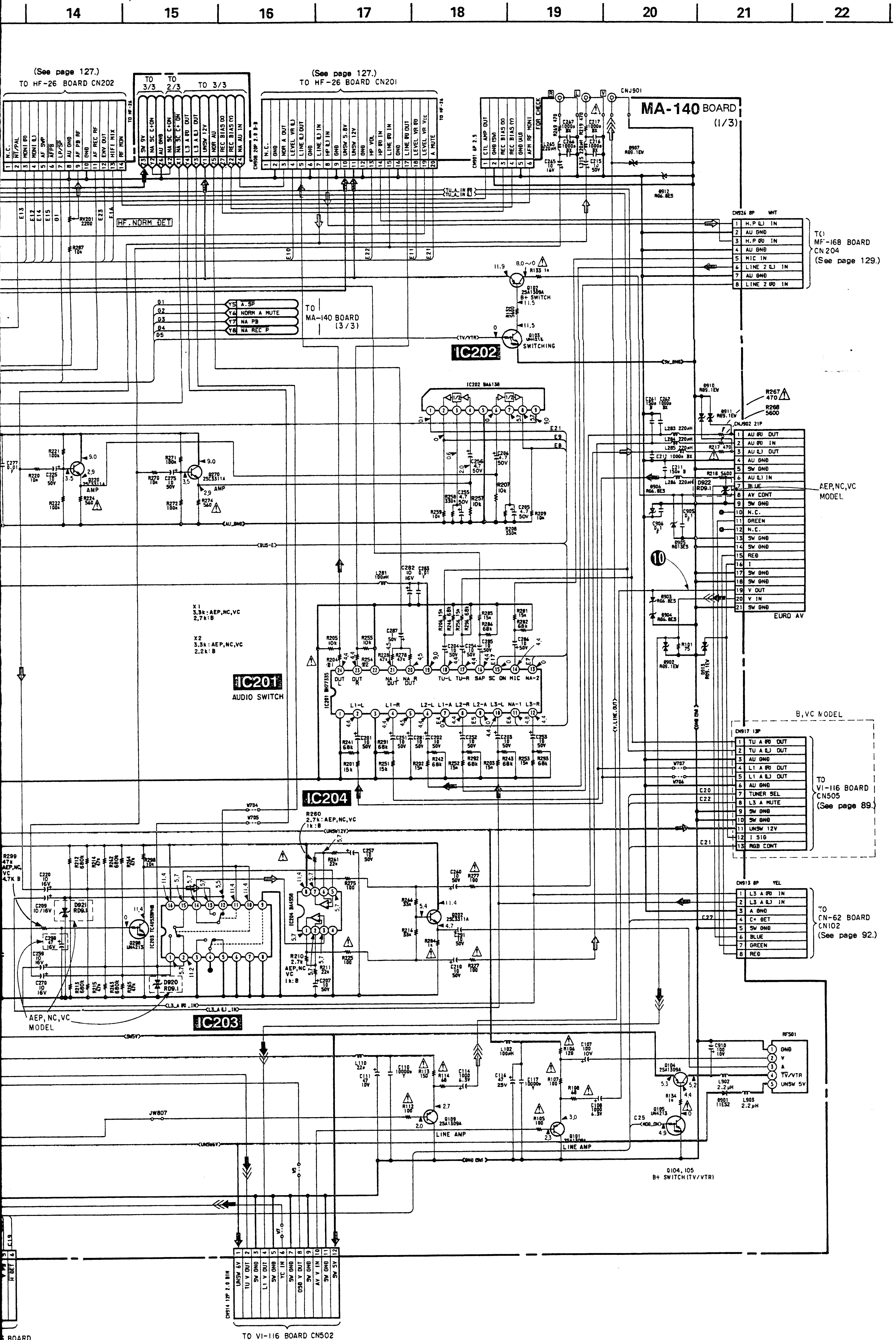
16
17
(See page 137.)
TO MF-167 BOARD CN601
(See page 137.)
TO MF-167 BOARD CN602
TO 2/3
(See page 127.)
TO HF-26 BOARD CN202
TO 3/3
TO 2/3
TO 3/3
(See page 127.)
TO HF-26 BOARD CN20
HF.NORM DET
TO MA-140 BOARD (3/3)
A.SP
NORM A MUTE
NA PB
NA REC P
IC403
MOTOR DRIVE
IC402
CTL AMP
IC401
SERVO/SYSTEM CONTROL
IC401 CXP80724-049Q
IC201
AUDIO SWITCH
IC204
IC203
IC404
MOTOR DRIVE
AF SW POS
RF SW POS
AEP,NC,VC MODEL
VC,B MODEL
B,NC,VC MODEL
X1 3.3k:AEP,NC,VC 2.7k:B
X2 3.3k:AEP,NC,VC 2.2k:B
AMP
TO POWER SUPPLY BOARD CN001
TO RP-147 BOARD CN802 (See page 77.)
TO YC-124 BOARD CN300 (See page 86.)
TO YC-124 BOARD CN305 (See page 87.)
TO VI-116 BOARD CN503
TO VI-116 BOARD CN502 (See page 89.)


14
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22
(See page 127.) TO HF-26 BOARD CN202
TO 3/3
TO 2/3
TO 3/3
(See page 127.) TO HF-26 BOARD CN201
CNJ901
MA-140 BOARD (1/3)
HF.NORM DET
TO MF-168 BOARD CN204 (See page 129.)
TO MA-140 BOARD (3/3)
A.SP
NORM A MUTE
NA PB
NA REC P
IC202
Q102 2SA1309A B+ SWITCH
Q103 UN4213 SWITCHING
IC202 BA6138
CN902 21P
AEP,NC,VC MODEL
EURO AV
IC201 AUDIO SWITCH
X1 3.3k:AEP,NC,VC 2.7k:B
X2 3.3k:AEP,NC,VC 2.2k:B
Q220 2SC3311A AMP
Q270 2SC3311A AMP
IC204
B,VC MODEL
TO VI-116 BOARD CN505 (See page 89.)
TO CN-62 BOARD CN102 (See page 92.)
IC203
AEP,NC,VC MODEL
RF501
Q109 2SA1309A LINE AMP
Q101 2SA1309A LINE AMP
Q104,105 B+ SWITCH (TV/VTR)
TO VI-116 BOARD CN502 (See page 89.)
BOARD

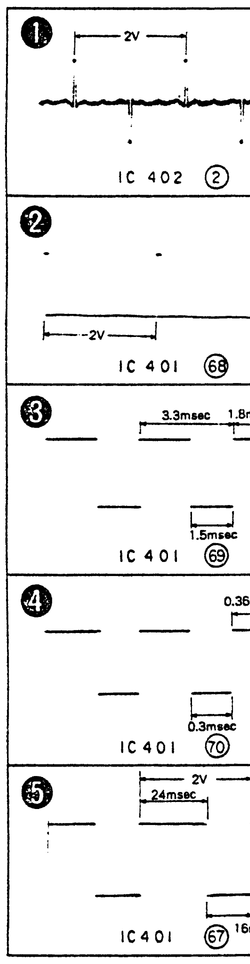
- **Signal palth**

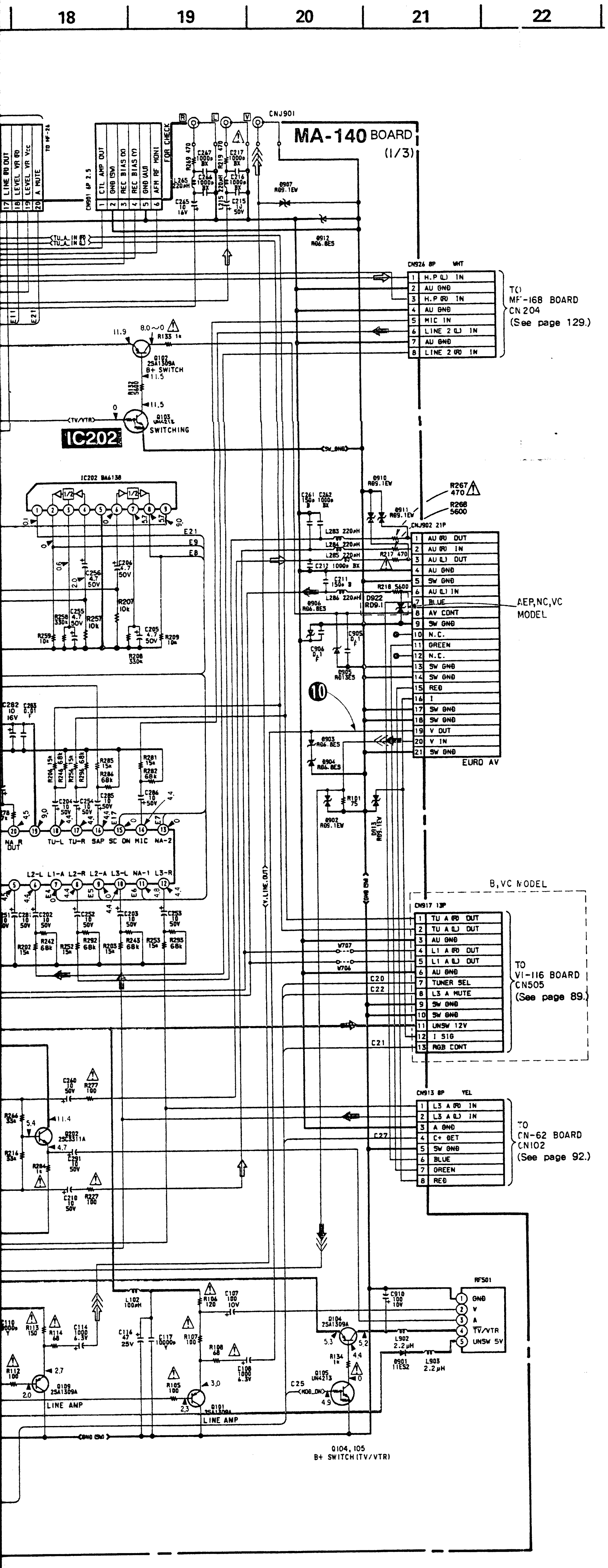
	CHROMA
REC	
PB	

- **Signal palth**

Drum speed servo
Drum phase servo
Drum servo (speed and
Capstan speed servo
Capstan servo (speed ar
Ref. signal

MA-140 BOARD (1/3)




18
19
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21
22
CNJ901
MA-140 BOARD (1/3)
IC202
CN926 8P WHT
1 H.P (L) IN
2 AU GND
3 H.P (R) IN
4 AU GND
5 MIC IN
6 LINE 2 (L) IN
7 AU GND
8 LINE 2 (R) IN
TO MF-168 BOARD CN204 (See page 129.)
Q102 2SA1309A B+ SWITCH
Q103 UN4213 SWITCHING
IC202 BA6138
CNJ902 21P
1 AU (R) OUT
2 AU (R) IN
3 AU (L) OUT
4 AU GND
5 SW GND
6 AU (L) IN
7 BLUE
8 AV CONT
9 SW GND
10 N.C.
11 GREEN
12 N.C.
13 SW GND
14 SW GND
15 RED
16 I
17 SW GND
18 SW GND
19 V OUT
20 V IN
21 SW GND
EURO AV
AEP,NC,VC MODEL
B,VC MODEL
CN917 13P
1 TU A (R) OUT
2 TU A (L) OUT
3 AU GND
4 L1 A (R) OUT
5 L1 A (L) OUT
6 AU GND
7 TUNER SEL
8 L3 A MUTE
9 SW GND
10 SW GND
11 UNSW 12V
12 I SIG
13 RGB CONT
TO VI-116 BOARD CN505 (See page 89.)
CN913 8P YEL
1 L3 A (R) IN
2 L3 A (L) IN
3 A GND
4 C+ DET
5 SW GND
6 BLUE
7 GREEN
8 RED
TO CN-62 BOARD CN102 (See page 92.)
RFS01
GND
V
A
TV/VTR
UNSW 5V
LINE AMP
Q104, 105 B+ SWITCH (TV/VTR)

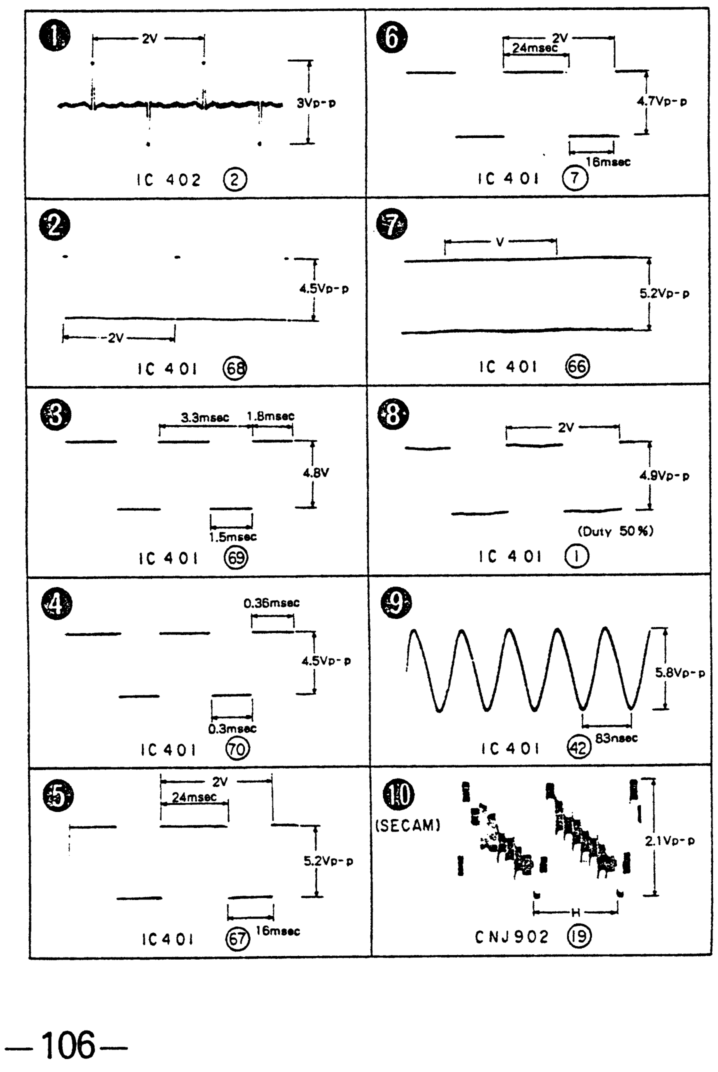
- **Signal palth**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡»»	➡
PB			⇨»»	⇨

- **Signal palth**

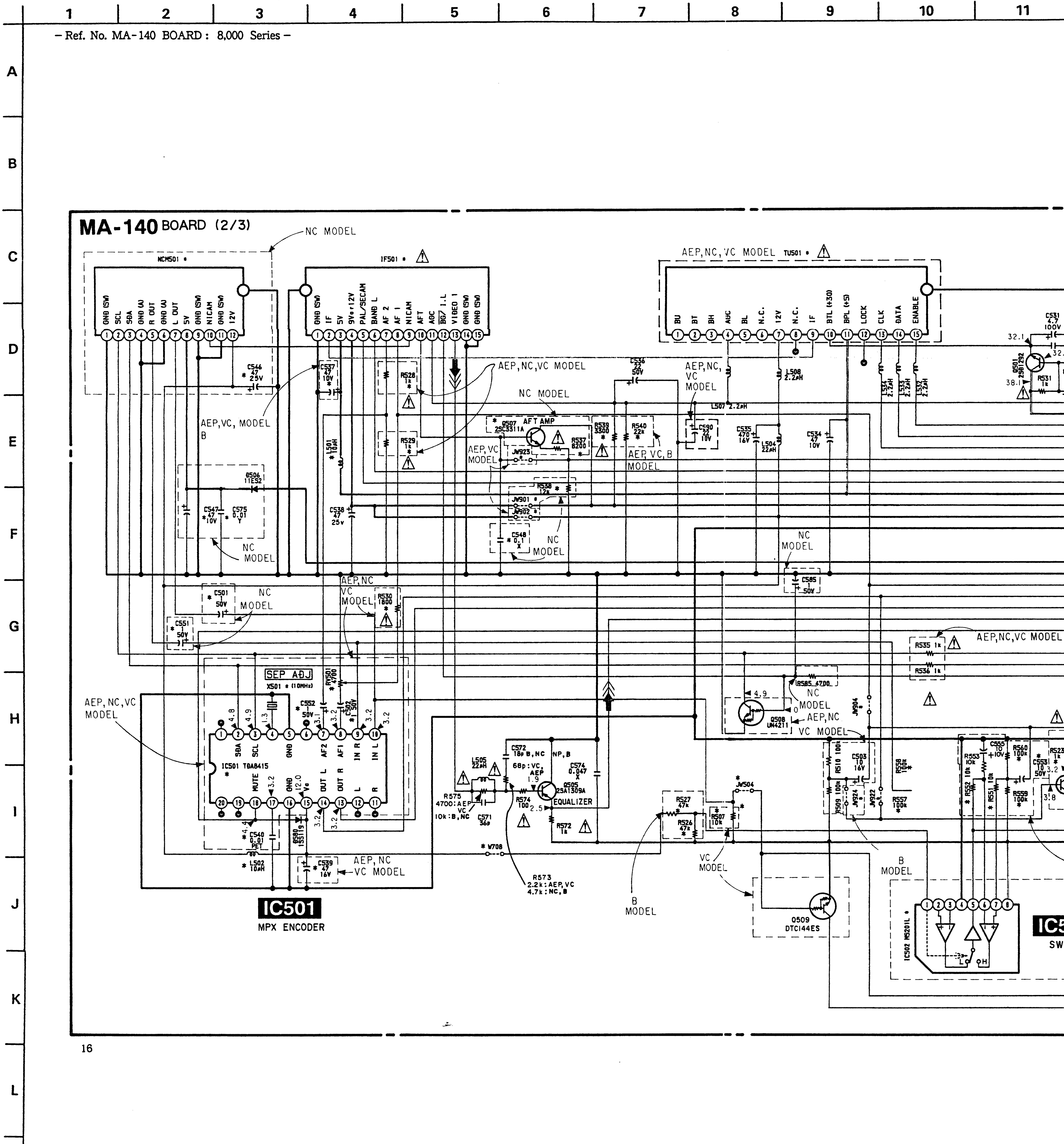
	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷▷	
Drum servo (speed and pnase)		▷▷▷	
Capstan speed servo		⊐	
Capstan servo (speed and phase)		⊐»»	
Ref, signal	➤		⊐

MA-140 BOARD (1/3)


❶
2V
3Vp-p
IC 402 ②
❻
2V
24msec
4.7Vp-p
16msec
IC 401 ⑦
❷
4.5Vp-p
2V
IC 401 ⑱
❼
V
5.2Vp-p
IC 401 ⑯
❸
3.3msec
1.8msec
4.8V
1.5msec
IC 401 ⑲
❽
2V
4.9Vp-p
(Duty 50%)
IC 401 ①
❹
0.36msec
4.5Vp-p
0.3msec
IC 401 ⑳
❾
5.8Vp-p
83nsec
IC 401 ㊷
❺
2V
24msec
5.2Vp-p
16msec
IC 401 ⑰
❿
(SECAM)
2.1Vp-p
H
CNJ902 ⑲

MA-140 (NORMAL AUDIO REC/PB AMP). (TUNER, IF STAGE AMP) SCHEMATIC DIAGRAM

– Ref. No. MA-140 BOARD : 8,000 Series –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A
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C
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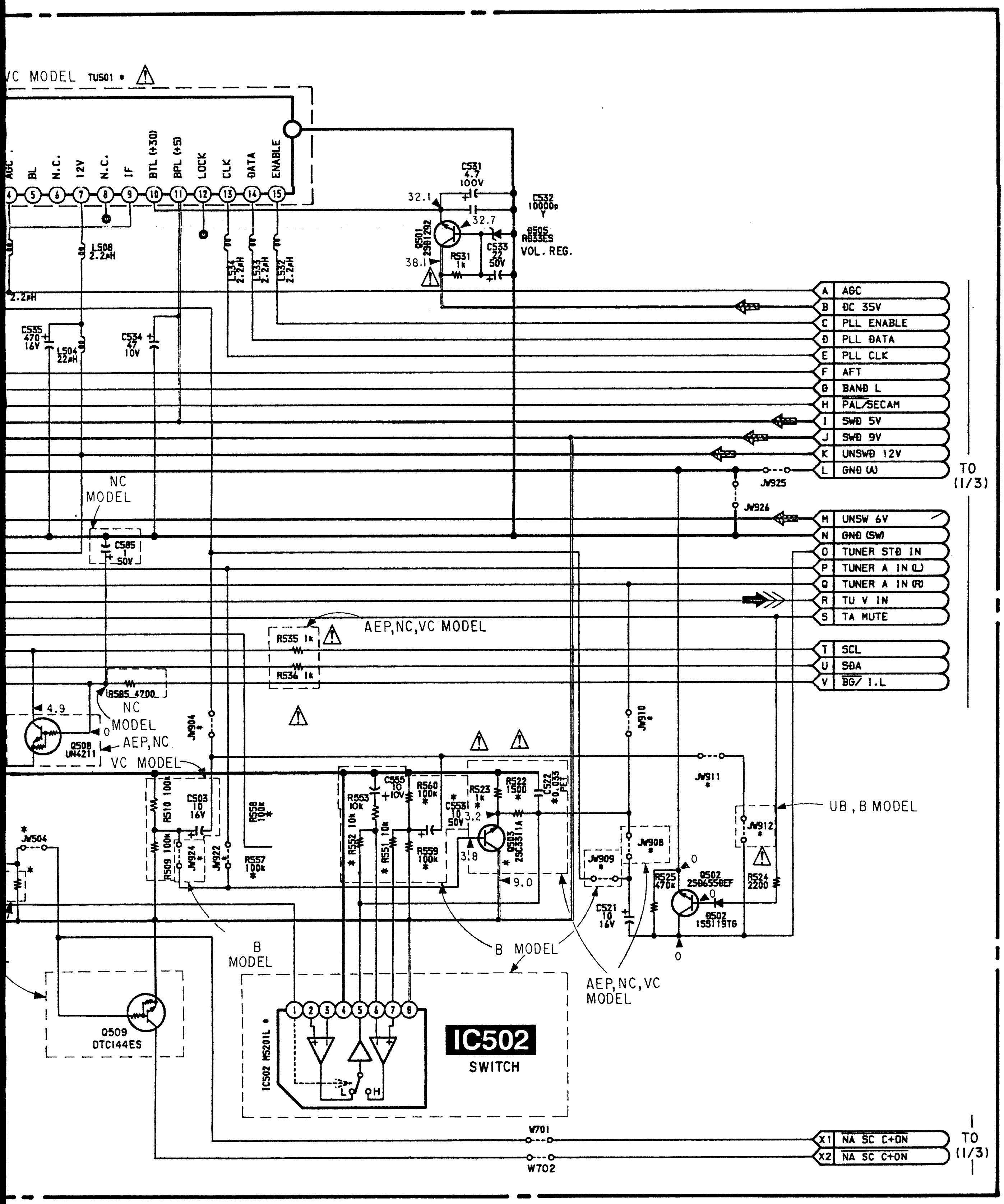
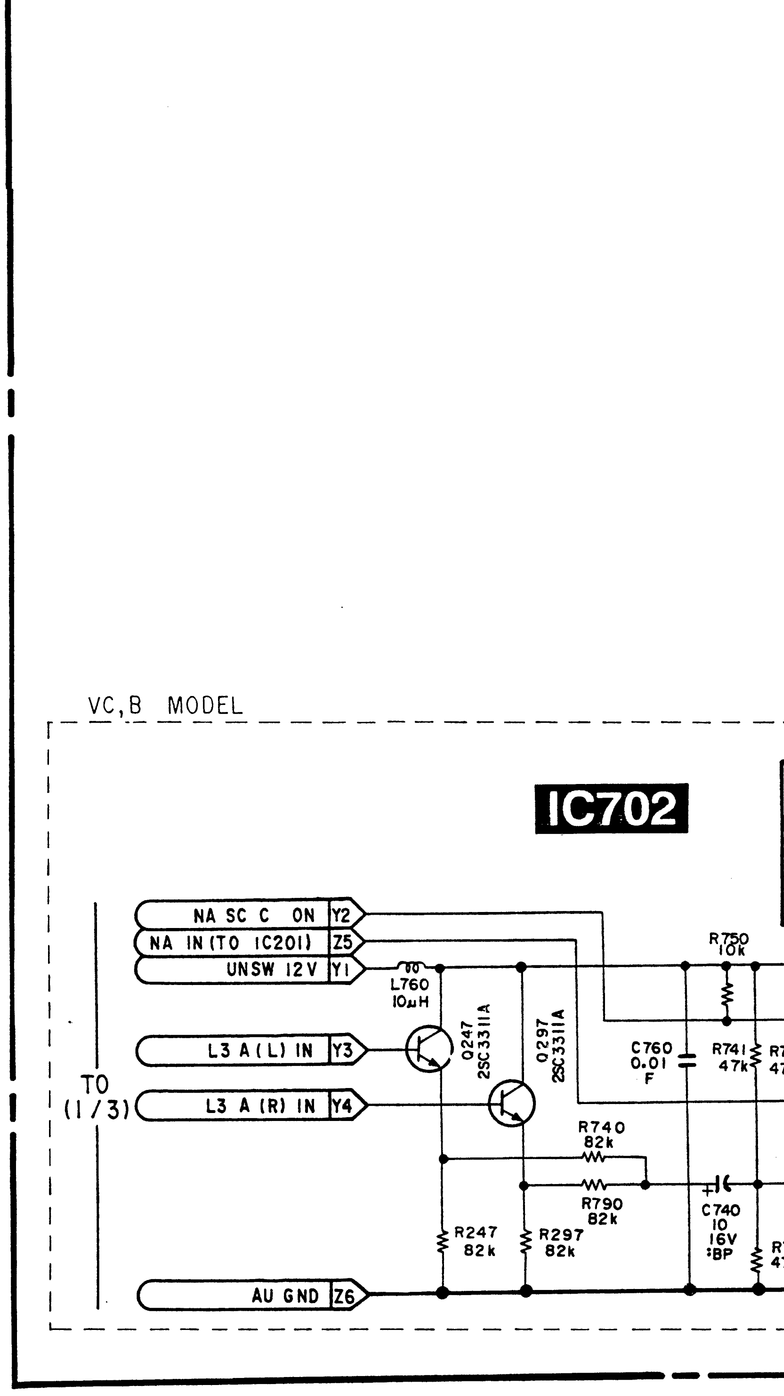
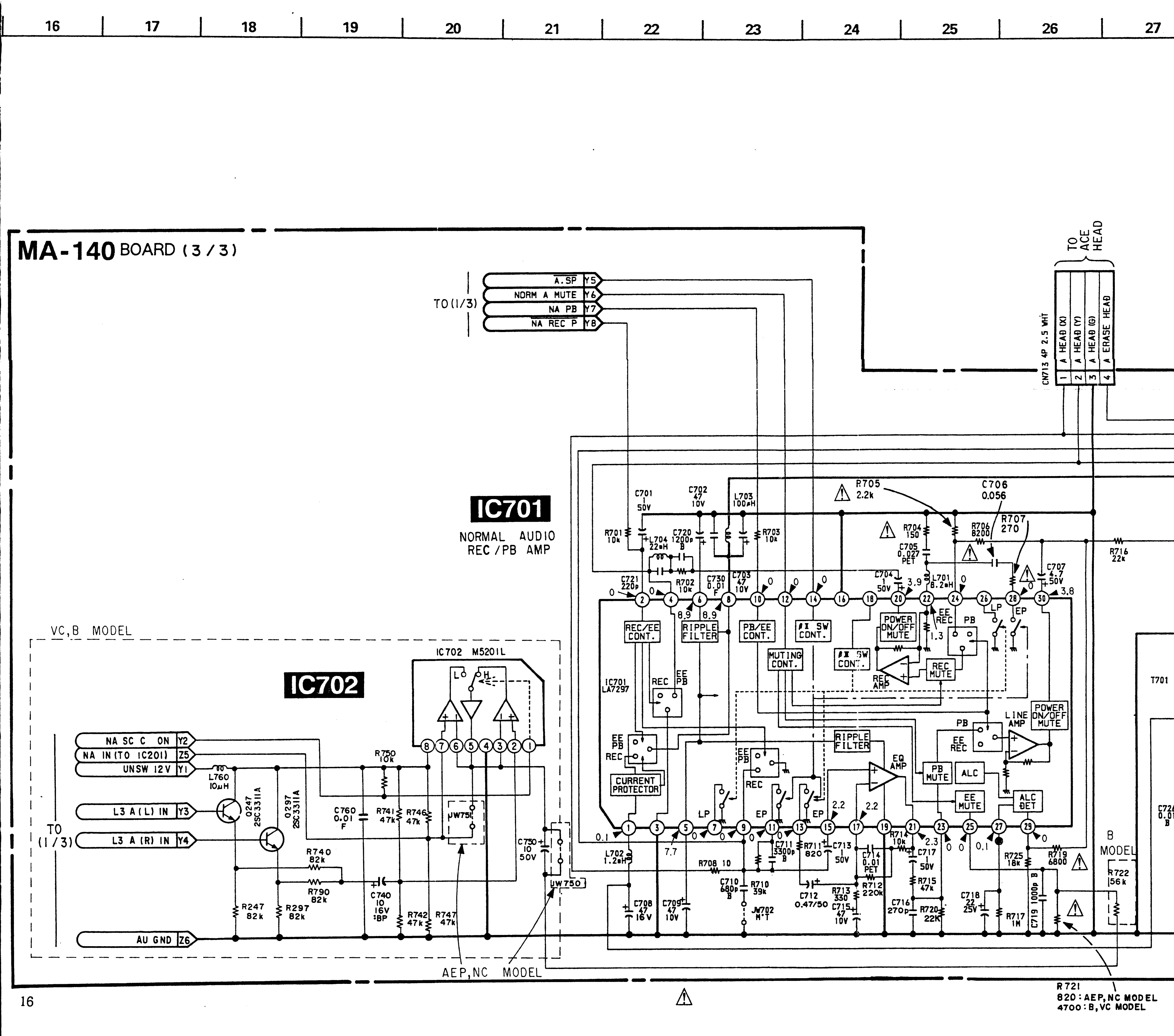
H
I
J
K
L
M
N
O
MA-140 BOARD (2/3)
NC MODEL
NCM501
IF501
AEP,NC,VC MODEL TU501
AEP,VC, MODEL B
AEP,NC,VC MODEL
NC MODEL
Q507 2SC3311A AFT AMP
AEP,VC MODEL
AEP,NC, VC MODEL
AEP,VC,B MODEL
SEP ADJ
X501 (10MHz)
IC501 TDA8415
IC501
MPX ENCODER
Q505 2SA1309A EQUALIZER
Q508 UN4211
Q509 DTC144ES
IC502 M5201L
VC MODEL
B MODEL
AEP,NC VC MODEL
16


VC MODEL TU501 * ⚠
AGC
BL
N.C.
12V
N.C.
IF
BTL (+30)
BPL (+5)
LOCK
CLK
DATA
ENABLE
C531 4.7 100V
C532 10000p
32.1
32.7
38.1
Q501 2SB1292
R531 1k
C533 22 50V
D505 RD33ES
VOL. REG.
L508 2.2μH
L534 2.2μH
L533 2.2μH
L532 2.2μH
C535 470 16V
L504 22μH
C534 47 10V
A AGC
B DC 35V
C PLL ENABLE
D PLL DATA
E PLL CLK
F AFT
G BAND L
H PAL/SECAM
I SWD 5V
J SWD 9V
K UNSWD 12V
L GND (A)
M UNSW 6V
N GND (SW)
O TUNER STD IN
P TUNER A IN (L)
Q TUNER A IN (R)
R TU V IN
S TA MUTE
T SCL
U SDA
V BG/ I.L
TO (1/3)
JW925
JW926
NC MODEL
C585 1 50V
R535 1k
R536 1k
AEP,NC,VC MODEL
R585 4700
NC MODEL
AEP,NC
VC MODEL
4.9
0
Q508 UN4211
JW904
JW910
JW911
JW504
R510 100k
C503 10 16V
R509 10k
JW924
JW922
R558 100k
R557 100k
R553 10k
C555 10 10V
R560 100k
R552 10k
R551 10k
R559 100k
C553 10 50V
R523 1k
R522 1500
C522 0.033 PE
3.2
3.8
Q503 2SC3311A
9.0
JW909
JW908
JW912
UB, B MODEL
R525 470k
Q502 2SB6558EF
D502 1SS119TG
R524 2200
C521 10 16V
0
B MODEL
B MODEL
AEP,NC,VC MODEL
Q509 DTC144ES
IC502 M5201L *
IC502
SWITCH
L
H
W701
W702
X1 NA SC C+ON
X2 NA SC C+ON
TO (1/3)

MA-140 BOARD (3/3)


VC,B MODEL
IC702
NA SC C ON Y2
NA IN (TO IC201) Z5
UNSW 12V Y1
L3 A (L) IN Y3
L3 A (R) IN Y4
AU GND Z6
TO (1/3)
L760 10μH
Q247 2SC3311A
Q297 2SC3311A
R750 10k
C760 0.01 F
R741 47k
R740 82k
R790 82k
C740 10 16V BP
R247 82k
R297 82k
16


16
17
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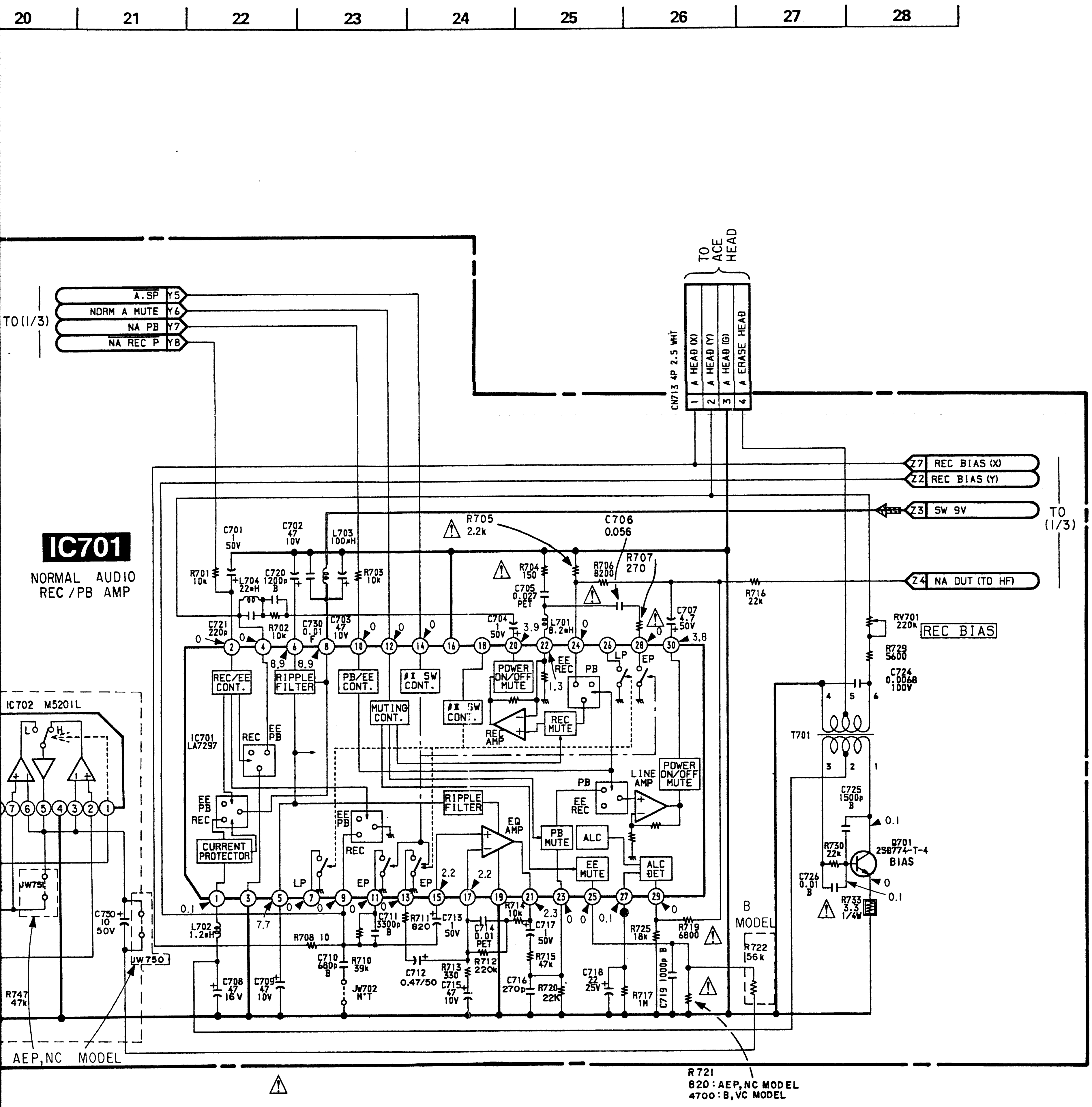
27
MA-140 BOARD (3/3)
TO (1/3)
A.SP Y5
NORM A MUTE Y6
NA PB Y7
NA REC P Y8
TO ACE HEAD
CN713 4P 2.5 WHT
1 A HEAD (X)
2 A HEAD (Y)
3 A HEAD (G)
4 A ERASE HEAD
IC701
NORMAL AUDIO REC/PB AMP
IC701 LA7297
R705 2.2k
C706 0.056
R707 270
R716 22k
REC/EE CONT.
RIPPLE FILTER
PB/EE CONT.
ΦX SW CONT.
MUTING CONT.
POWER ON/OFF MUTE
REC MUTE
REC AMP
LINE AMP
EQ AMP
PB MUTE
ALC
EE MUTE
ALC DET
CURRENT PROTECTOR
T701
VC,B MODEL
IC702
IC702 M5201L
NA SC C ON Y2
NA IN (TO IC201) Z5
UNSW 12V Y1
L3 A (L) IN Y3
L3 A (R) IN Y4
AU GND Z6
Q247 2SC3311A
Q297 2SC3311A
JW751
JW750
AEP,NC MODEL
B MODEL
R721
820 : AEP,NC MODEL
4700 : B,VC MODEL
16

- **Signal palth**

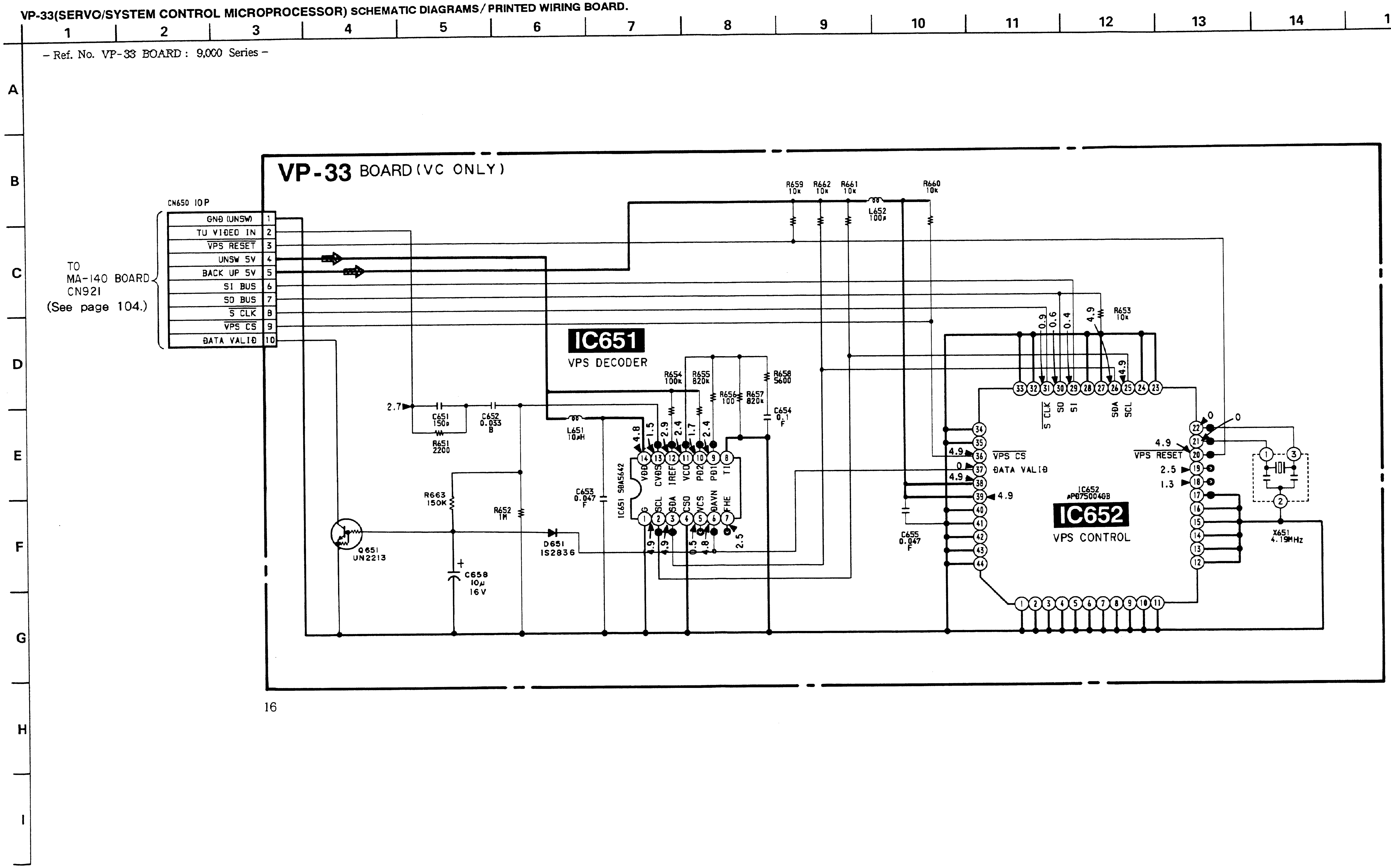
	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			⇛	
PB				


20
21
22
23
24
25
26
27
28
IC701
NORMAL AUDIO REC/PB AMP
TO (1/3)
A.SP Y5
NORM A MUTE Y6
NA PB Y7
NA REC P Y8
TO ACE HEAD
CN713 4P 2.5 WHT
A HEAD (X)
A HEAD (Y)
A HEAD (G)
A ERASE HEAD
Z1 REC BIAS (X)
Z2 REC BIAS (Y)
Z3 SW 9V
Z4 NA OUT (TO HF)
TO (1/3)
RV701 220k
REC BIAS
R729 5600
C724 0.0068 100V
T701
C725 1500p B
Q701 2SB774-T-4
BIAS
R730 22k
C726 0.01 B
R733 3.3 1/4W
B MODEL
R722 56k
R721
820 : AEP,NC MODEL
4700 : B,VC MODEL
R705 2.2k
C706 0.056
R707 270
R706 8200
R704 150
C705 0.027 PET
C707 4.7 50V
R716 22k
C701 1 50V
C702 47 10V
L703 100μH
R701 10k
L704 22μH
C720 1200p B
R703 10k
C721 220p
R702 10k
C730 0.01 F
C703 47 10V
C704 1 50V
L701 8.2μH
REC/EE CONT.
RIPPLE FILTER
PB/EE CONT.
φX SW CONT.
MUTING CONT.
φX SW CONT.
POWER ON/OFF MUTE
REC AMP
REC MUTE
EE REC
PB
LP
EP
POWER ON/OFF MUTE
LINE AMP
IC701 LA7297
REC
EE PB
CURRENT PROTECTOR
RIPPLE FILTER
EQ AMP
PB MUTE
ALC
EE MUTE
ALC DET
IC702 M5201L
JW751
C750 10 50V
JW750
R747 47k
AEP,NC MODEL
L702 1.2mH
C708 47 16V
C709 47 10V
R708 10
C710 680p B
R710 39k
JW702 M·T
C711 3300p B
R711 820
C713 1 50V
C712 0.47/50
R713 330
C715 47 10V
C714 0.01 PET
R714 10k
C717 1 50V
R712 220k
R715 47k
C716 270p
R720 22k
C718 22 25V
R725 18k
R717 1M
C719 1000p B
R719 6800

- **Signal palth**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡>>	
PB				

VP-33(SERVO/SYSTEM CONTROL MICROPROCESSOR) SCHEMATIC DIAGRAMS/PRINTED WIRING BOARD.



– Ref. No. VP-33 BOARD : 9,000 Series –

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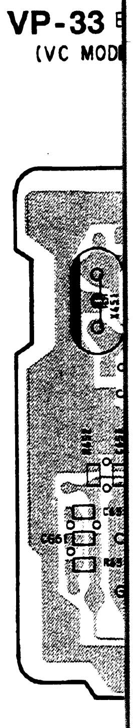
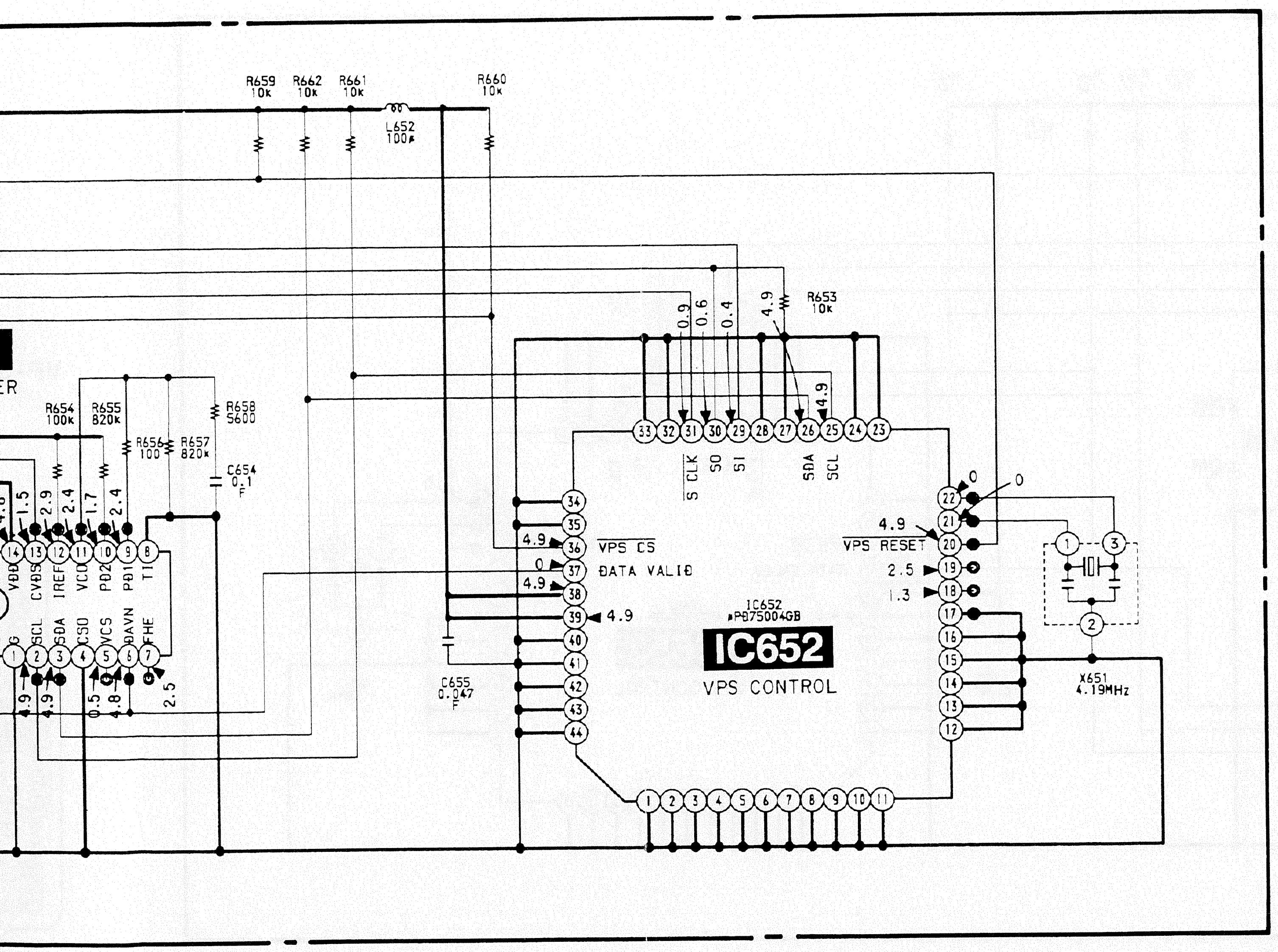
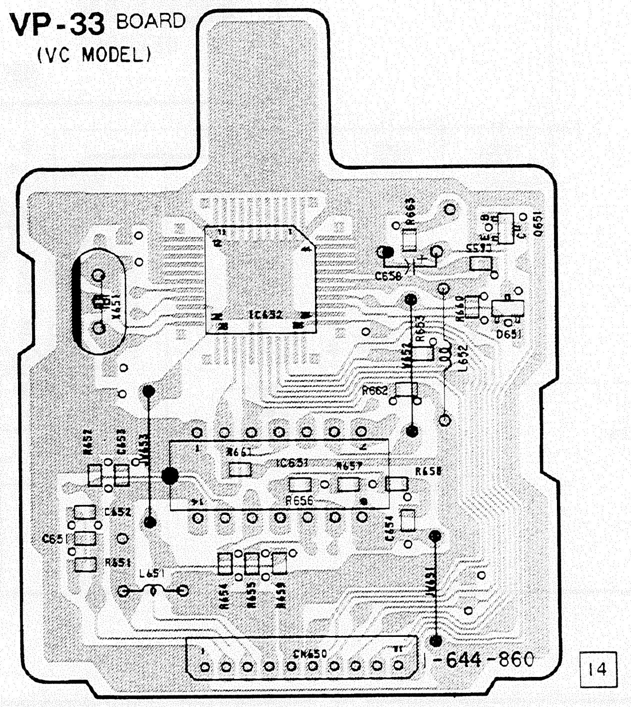
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
VP-33 BOARD (VC ONLY)
CN650 10P
GND (UNSW)
TU VIDEO IN
VPS RESET
UNSW 5V
BACK UP 5V
SI BUS
SO BUS
S CLK
VPS CS
DATA VALID
TO
MA-140 BOARD
CN921
(See page 104.)
R659 10k
R662 10k
R661 10k
L652 100μ
R660 10k
R653 10k
IC651
VPS DECODER
R654 100k
R655 820k
R656 100
R657 820k
R658 5600
C654 0.1 F
C651 150p
C652 0.033 B
R651 2200
L651 10μH
C653 0.047 F
IC651 SDA5642
VDD
CVBS
IREF
VCO
PD2
PD1
TI
G
SCL
SDA
CSO
VCS
DAVN
FHE
4.8
1.5
2.9
2.4
1.7
2.4
4.9
4.9
0.5
4.8
2.5
2.7
R663 150K
R652 1M
D651 1S2836
Q651 UN2213
C658 10μ 16V
C655 0.047 F
IC652 μPD75004GB
IC652
VPS CONTROL
S CLK
SO
SI
SDA
SCL
0.9
0.6
0.4
4.9
4.9
VPS CS
DATA VALID
4.9
0
4.9
4.9
VPS RESET
4.9
2.5
1.3
0
0
X651 4.19MHz
16



8 9 10 11 12 13 14 15 16 17 18 19


R659
10k
R662
10k
R661
10k
R660
10k
L652
100µ
R653
10k
R654
100k
R655
820k
R656
100
R657
820k
R658
5600
C654
0.1
F
C655
0.047
F
0.9
0.6
0.4
4.9
4.9
S CLK
SO
SI
SDA
SCL
VPS CS
DATA VALID
VPS RESET
4.9
0
4.9
4.9
4.9
2.5
1.3
0
0
IC652
µPD75004GB
IC652
VPS CONTROL
X651
4.19MHz
VBB
CVBS
IREF
VCO
PD2
PD1
TI
SCL
SDA
CSD
VCS
DAVN
FHE
1.5
2.9
2.4
1.7
2.4
4.9
0.5
4.8
2.5
ER


VP-33 BOARD
(VC MODEL)
IC652
IC651
CN650
1-644-860
14

VP-33 BOARD

IC651	K-3
IC652	J-3

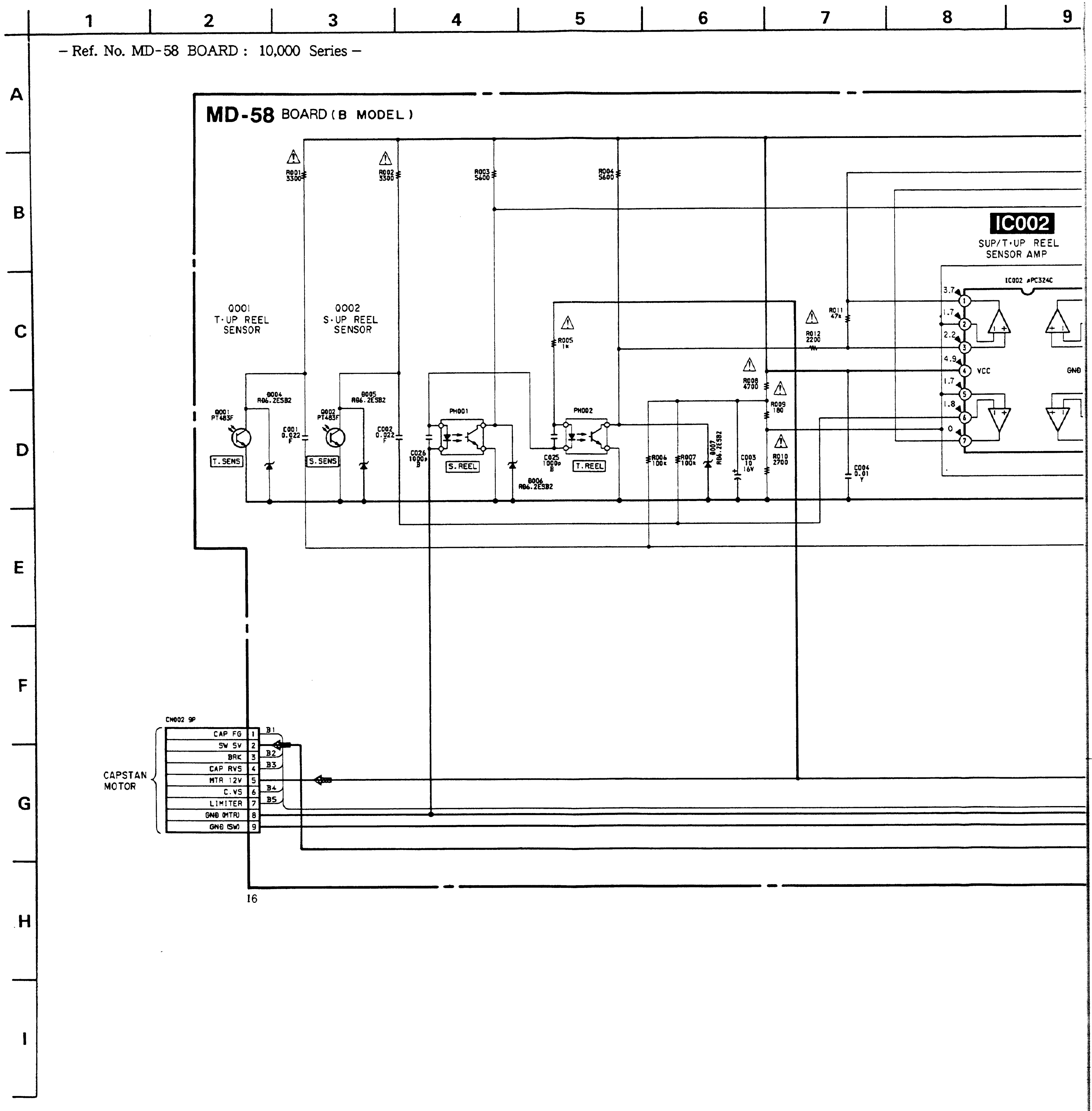
DIODE

D651 8-719-104-34 1S2836 (VC)

IC

IC651 8-759-030-60 SDA5642 (VC)
IC652 8-759-147-30 uPD75004GB-VSX182 (VC)

MD-58 (MECHANISM SENSOR) SCHEMATIC DIAGRAM



– Ref. No. MD-58 BOARD : 10,000 Series –

1
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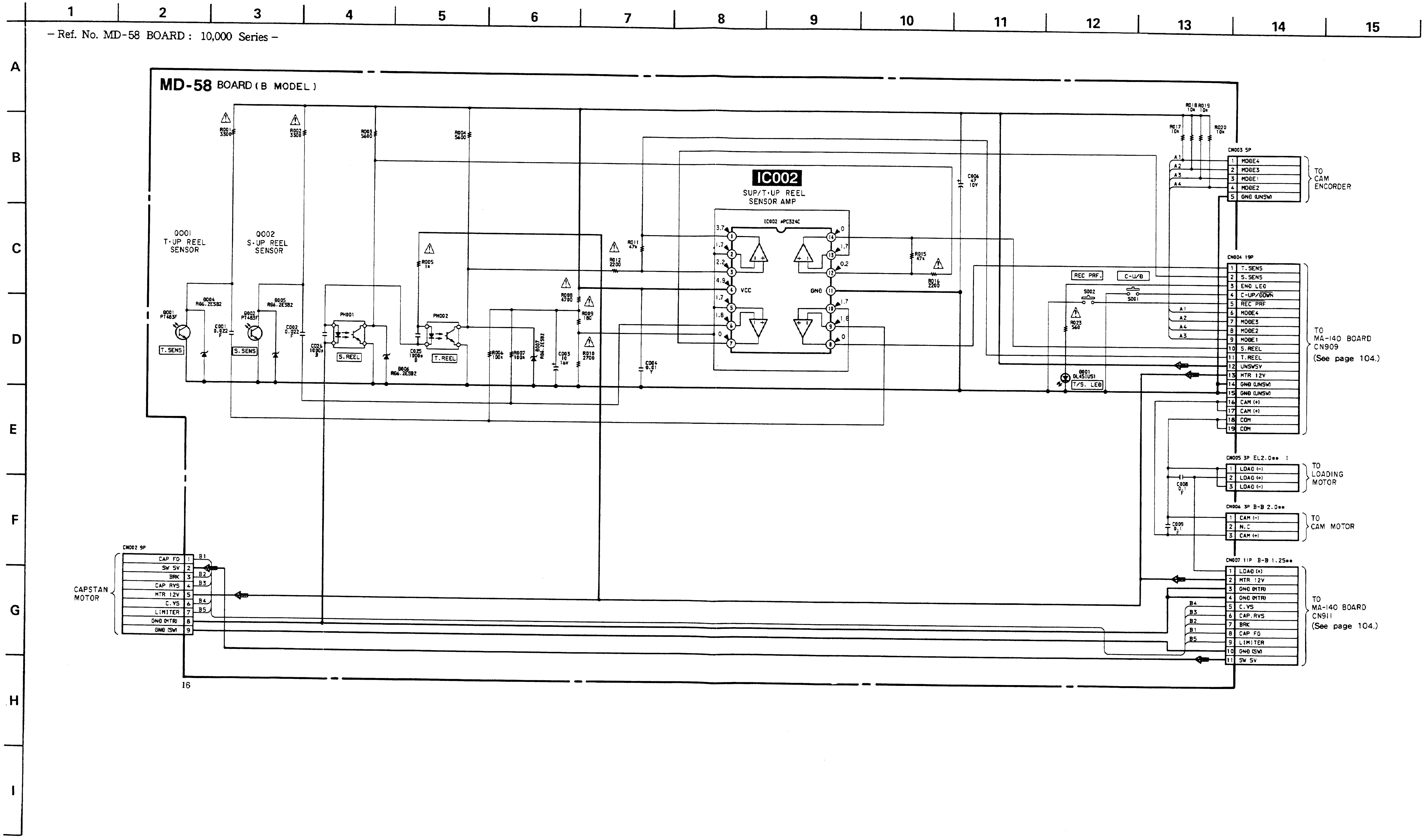
9
A
B
C
D
E
F
G
H
I
MD-58 BOARD (B MODEL)
R001 3300
R002 3300
R003 5600
R004 5600
Q001 T·UP REEL SENSOR
Q002 S·UP REEL SENSOR
Q001 PT483F
Q002 PT483F
D004 RD6.2ESB2
D005 RD6.2ESB2
D006 RD6.2ESB2
D007 RD6.2ESB2
C001 0.022 F
C002 0.022 F
T.SENS
S.SENS
PH001
PH002
C026 1000p B
C025 1000p B
S.REEL
T.REEL
R005 1k
R006 100k
R007 100k
C003 10 16V
R008 4700
R009 180
R010 2700
R011 47k
R012 2200
C004 0.01 Y
IC002
SUP/T·UP REEL SENSOR AMP
IC002 µPC324C
3.7
1.7
2.2
4.9
1.7
1.8
0
VCC
GND
CN002 9P
CAPSTAN MOTOR
CAP FG 1
SW 5V 2
BRK 3
CAP RVS 4
MTR 12V 5
C.VS 6
LIMITER 7
GND (MTR) 8
GND (SW) 9
B1
B2
B3
B4
B5
16

MD-58 (MECHANISM SENSOR) SCHEMATIC DIAGRAM

– Ref. No. MD-58 BOARD : 10,000 Series –


1
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11
12
13
14
15
A
B
C
D
E
F
G
H
I
MD-58 BOARD (B MODEL)
R001 3300
R002 3300
R003 5600
R004 5600
Q001 T·UP REEL SENSOR
Q002 S·UP REEL SENSOR
Q001 PT483F
Q002 PT483F
D004 RD6.2ESB2
D005 RD6.2ESB2
C001 0.022 F
C002 0.022 F
T. SENS
S. SENS
PH001
PH002
C026 1000p B
C025 1000p B
S. REEL
T. REEL
D006 RD6.2ESB2
R005 1k
R006 100k
R007 100k
D007 RD6.2ESB2
C003 10 16V
R008 4700
R009 180
R010 2700
R011 47k
R012 2200
C004 0.01 Y
IC002
SUP/T·UP REEL SENSOR AMP
IC002 μPC324C
3.7
1.7
2.2
4.9
1.7
1.8
0
VCC
GND
0
1.7
0.2
1.7
1.8
0
C006 47 10V
R015 47k
R016 2200
REC PRF.
C-U/D
S002
S001
R023 560
D001 GL4S1US1
T/S. LED
R017 10k
R018 10k
R019 10k
R020 10k
A1
A2
A3
A4
CN003 5P
1 MODE4
2 MODE3
3 MODE1
4 MODE2
5 GND (UNSW)
TO CAM ENCORDER
CN004 19P
1 T.SENS
2 S.SENS
3 END LED
4 C-UP/DOWN
5 REC PRF
6 MODE4
7 MODE3
8 MODE2
9 MODE1
10 S.REEL
11 T.REEL
12 UNSW5V
13 MTR 12V
14 GND (UNSW)
15 GND (UNSW)
16 CAM (+)
17 CAM (+)
18 COM
19 COM
TO MA-140 BOARD CN909 (See page 104.)
CN005 3P EL2.0mm 1
1 LOAD (–)
2 LOAD (+)
3 LOAD (–)
TO LOADING MOTOR
C008 0.1 F
CN006 3P B-B 2.0mm
1 CAM (–)
2 N.C
3 CAM (+)
TO CAM MOTOR
C009 0.1 F
CN007 11P B-B 1.25mm
1 LOAD (+)
2 MTR 12V
3 GND (MTR)
4 GND (MTR)
5 C.VS
6 CAP.RVS
7 BRK
8 CAP FG
9 LIMITER
10 GND (SW)
11 SW 5V
B1
B2
B3
B4
B5
TO MA-140 BOARD CN911 (See page 104.)
CN002 9P
CAP FG 1
SW 5V 2
BRK 3
CAP RVS 4
MTR 12V 5
C.VS 6
LIMITER 7
GND (MTR) 8
GND (SW) 9
CAPSTAN MOTOR
16

MD-58 (MECHANISM SENSOR) PRINTED WIRING BOARD

– Ref. No. MD-58 BOARD : 10,000 Series –

MD-58 BOARD

D001	D-7
D004	D-2
D005	D-9
D006	F-6
D007	F-5
IC002	B-5
Q001	C-1
Q002	C-9

DIODE

D001	8-719-985-00	GL451VS1
D004	8-719-109-93	RD6. 2ES-B2
D005	8-719-109-93	RD6. 2ES-B2
D006	8-719-109-93	RD6. 2ES-B2
D007	8-719-109-93	RD6. 2ES-B2

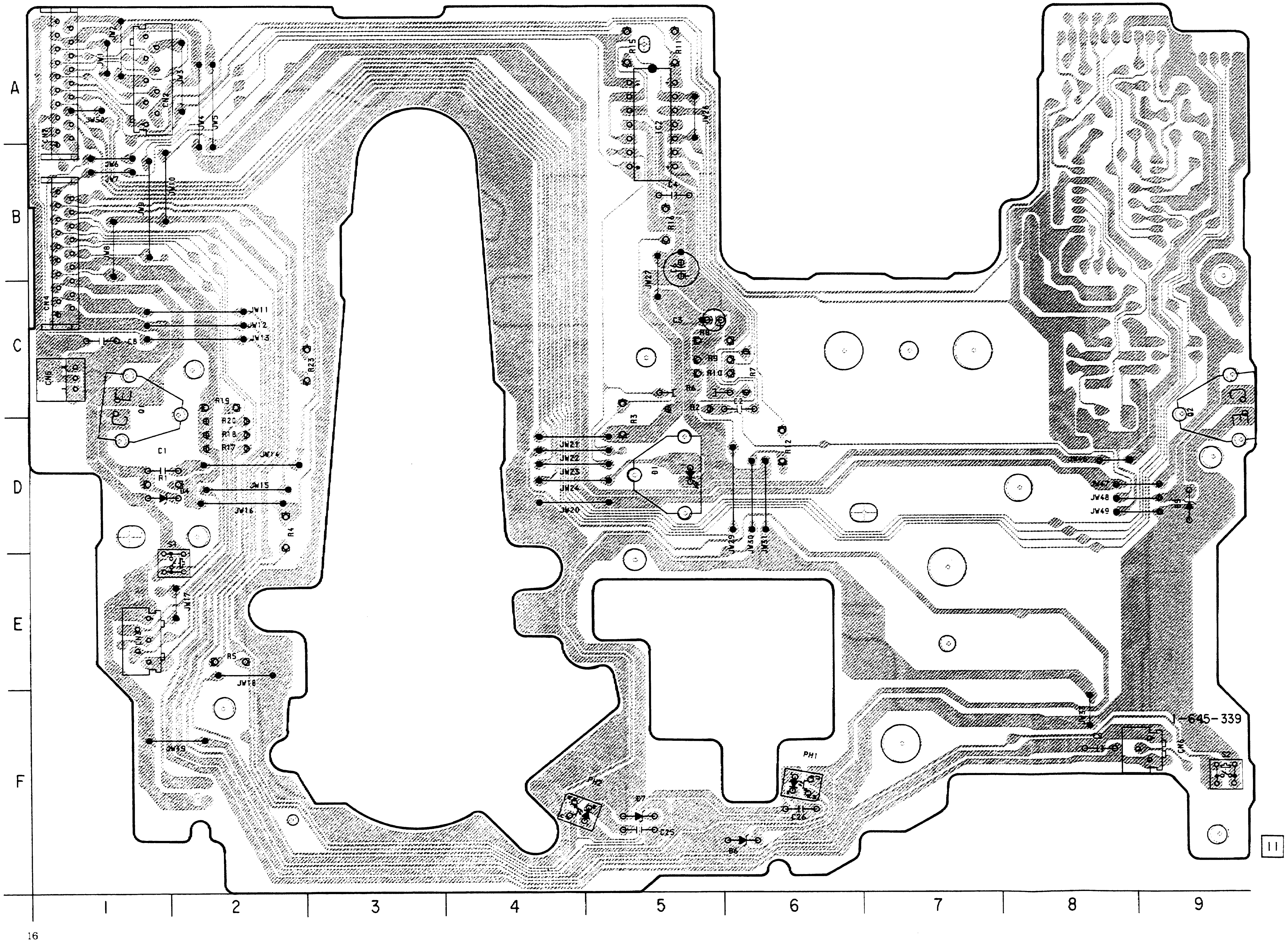
IC

IC002	8-759-912-77	uPC324C

TRANSISTOR

Q001	8-729-926-31	PT483F1S
Q002	8-729-926-31	PT483F1S

MD-58 BOARD (B MODEL)


A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
CN4
CN5
CN6
IC2
Q1
Q2
PH1
PH2
C1
C3
C8
C25
C26
R3
R4
R5
R7
R9
R10
R11
R12
R15
R16
R17
R18
R19
R20
R23
D7
D6
D4
JW1
JW2
JW3
JW4
JW5
JW6
JW7
JW8
JW9
JW10
JW11
JW12
JW13
JW14
JW15
JW16
JW17
JW18
JW20
JW21
JW22
JW23
JW24
JW27
JW29
JW30
JW31
JW46
JW47
JW48
JW49
JW50
JW55
1-645-339
11
16

MD-56 (MECHANISM SENSOR) PRINTED WIRING BOARD

– Ref. No. MD-56 BOARD : 19,000 Series –

MD-56 BOARD

D001	C-5
D004	C-8
D005	C-1
D006	A-4
D007	A-5

IC002F-5

0001	D-8
0002	D-1

DIODE

D001	8-719-985-00	GL451VS1
D004	8-719-109-93	RD6. 2ES-B2
D005	8-719-109-93	RD6. 2ES-B2
D006	8-719-109-93	RD6. 2ES-B2
D007	8-719-109-93	RD6. 2ES-B2

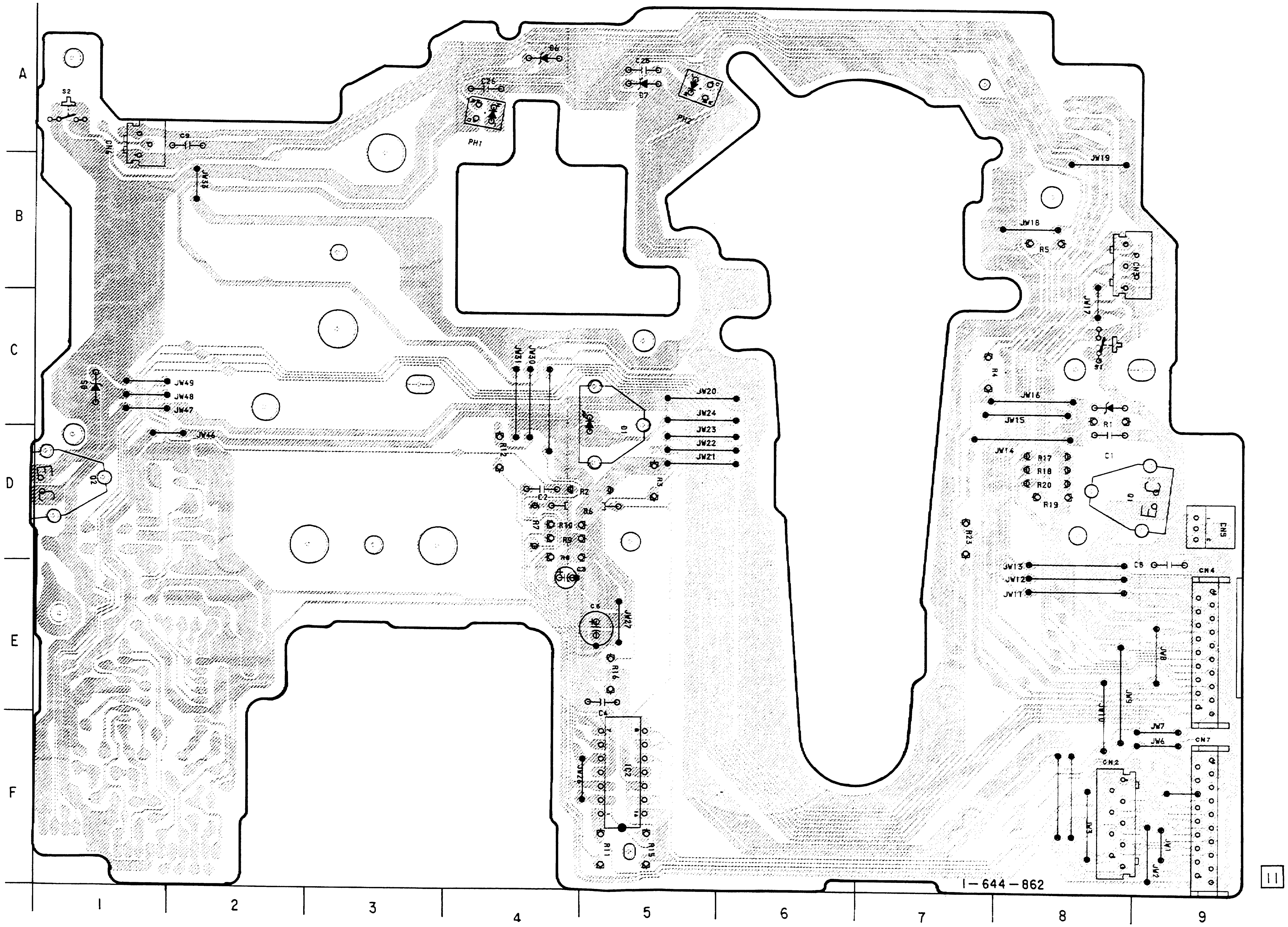
IC

IC002	8-759-912-77	uPC324C

TRANSISTOR

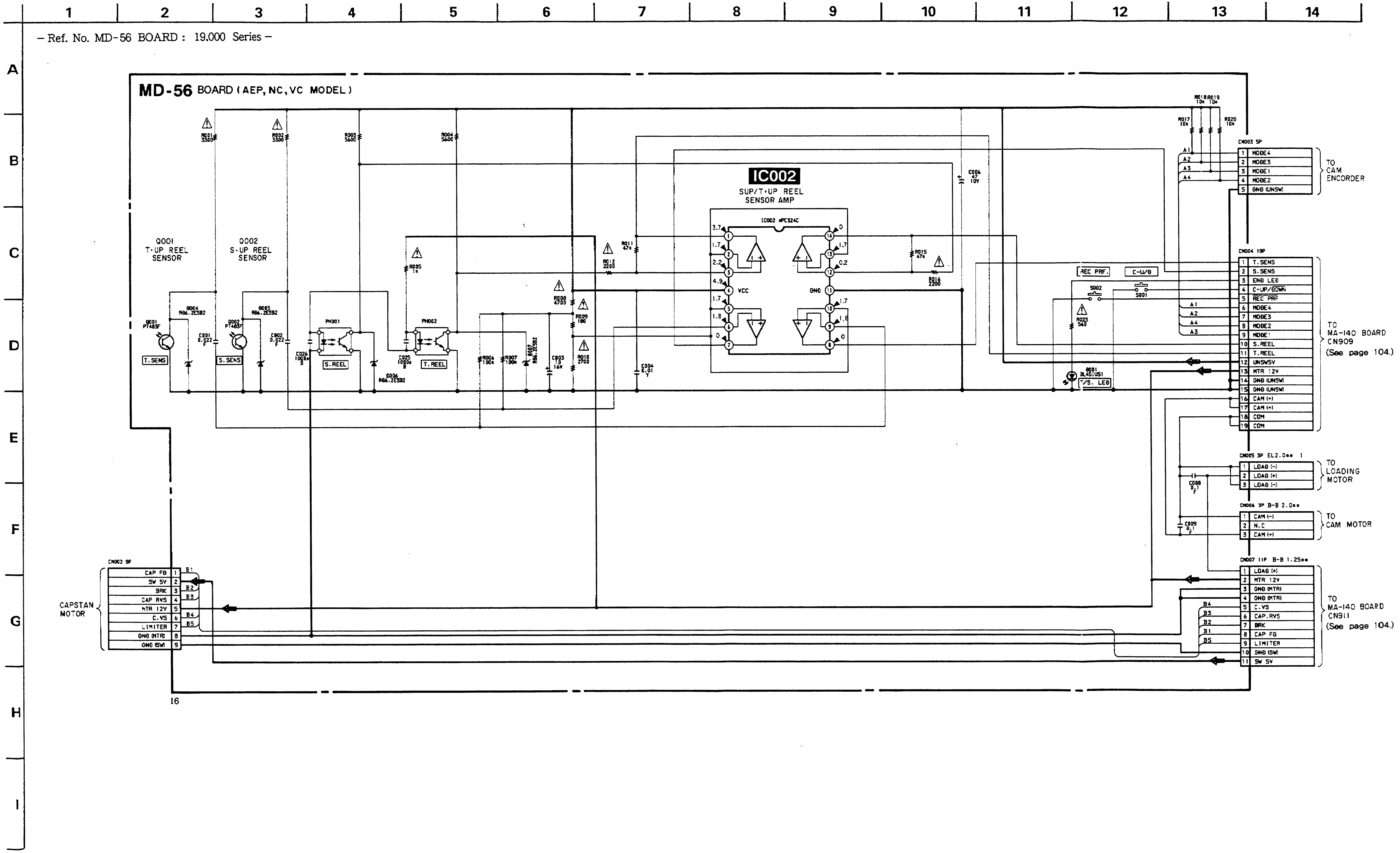
Q001	8-729-926-31	PT483F1S
Q002	8-729-926-31	PT483F1S

MD-56 BOARD (AEP, NC, VC MODEL)


A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
S2
CN6
C9
JW38
D6
C26
PH1
C25
D7
PH2
JW19
JW18
R5
CN3
JW17
S1
D5
JW49
JW48
JW47
JW44
JW31
JW30
JW20
JW24
JW23
JW22
JW21
D1
R12
R3
R4
JW16
JW15
JW14
R1
R17
R18
R20
R19
C1
Q1
Q2
C2
R2
R6
R7
R10
R8
R9
C3
C6
JW27
R16
C4
IC2
JW26
R11
R15
R23
JW13
JW12
JW11
C5
CN4
CN5
JW8
JW9
JW10
JW7
JW6
CN7
CN2
JW3
JW1
JW2
1-644-862
11

MD-56 (MECHANISM SENSOR) SCHEMATIC DIAGRAM

– Ref. No. MD-56 BOARD : 19,000 Series –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A
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C
D
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G
H
I
MD-56 BOARD (AEP, NC, VC MODEL)
R001 3300
R002 3300
R003 5600
R004 5600
Q001 T·UP REEL SENSOR
Q002 S·UP REEL SENSOR
Q001 PT483F
Q002 PT483F
D004 RB6.2ESB2
D005 RB6.2ESB2
C001 0.022 F
C002 0.022 F
T.SENS
S.SENS
PH001
PH002
C026 1000p B
C025 1000p B
S.REEL
T.REEL
D006 RB6.2ESB2
R005 1k
R006 100k
R007 100k
D007 RB6.2ESB2
C003 10 16V
R008 4700
R009 180
R010 2700
R011 47k
R012 2200
C004 0.01 Y
IC002
SUP/T·UP REEL SENSOR AMP
IC002 μPC324C
VCC
GND
3.7
1.7
2.2
4.9
1.7
1.8
0
0
1.7
0.2
1.7
1.8
0
R015 47k
R016 2200
C006 47 10V
REC PRF.
C-U/D
S002
S001
R023 560
D001 GL451US1
T/S. LED
R017 10k
R018 10k
R019 10k
R020 10k
A1
A2
A3
A4
CN003 5P
1 MODE4
2 MODE3
3 MODE1
4 MODE2
5 GND (UNSW)
TO CAM ENCORDER
CN004 19P
1 T.SENS
2 S.SENS
3 END LED
4 C-UP/DOWN
5 REC PRF
6 MODE4
7 MODE3
8 MODE2
9 MODE1
10 S.REEL
11 T.REEL
12 UNSW5V
13 MTR 12V
14 GND (UNSW)
15 GND (UNSW)
16 CAM (+)
17 CAM (+)
18 COM
19 COM
TO MA-140 BOARD CN909 (See page 104.)
CN005 3P EL2.0mm I
1 LOAD (–)
2 LOAD (+)
3 LOAD (–)
TO LOADING MOTOR
C008 0.1 F
CN006 3P B-B 2.0mm
1 CAM (–)
2 N.C
3 CAM (+)
TO CAM MOTOR
C009 0.1 F
CN007 11P B-B 1.25mm
1 LOAD (+)
2 MTR 12V
3 GND (MTR)
4 GND (MTR)
5 C.VS
6 CAP.RVS
7 BRK
8 CAP FG
9 LIMITER
10 GND (SW)
11 SW 5V
B1
B2
B3
B4
B5
TO MA-140 BOARD CN911 (See page 104.)
CN002 9P
CAP FG 1
SW 5V 2
BRK 3
CAP RVS 4
MTR 12V 5
C.VS 6
LIMITER 7
GND (MTR) 8
GND (SW) 9
CAPSTAN MOTOR
16

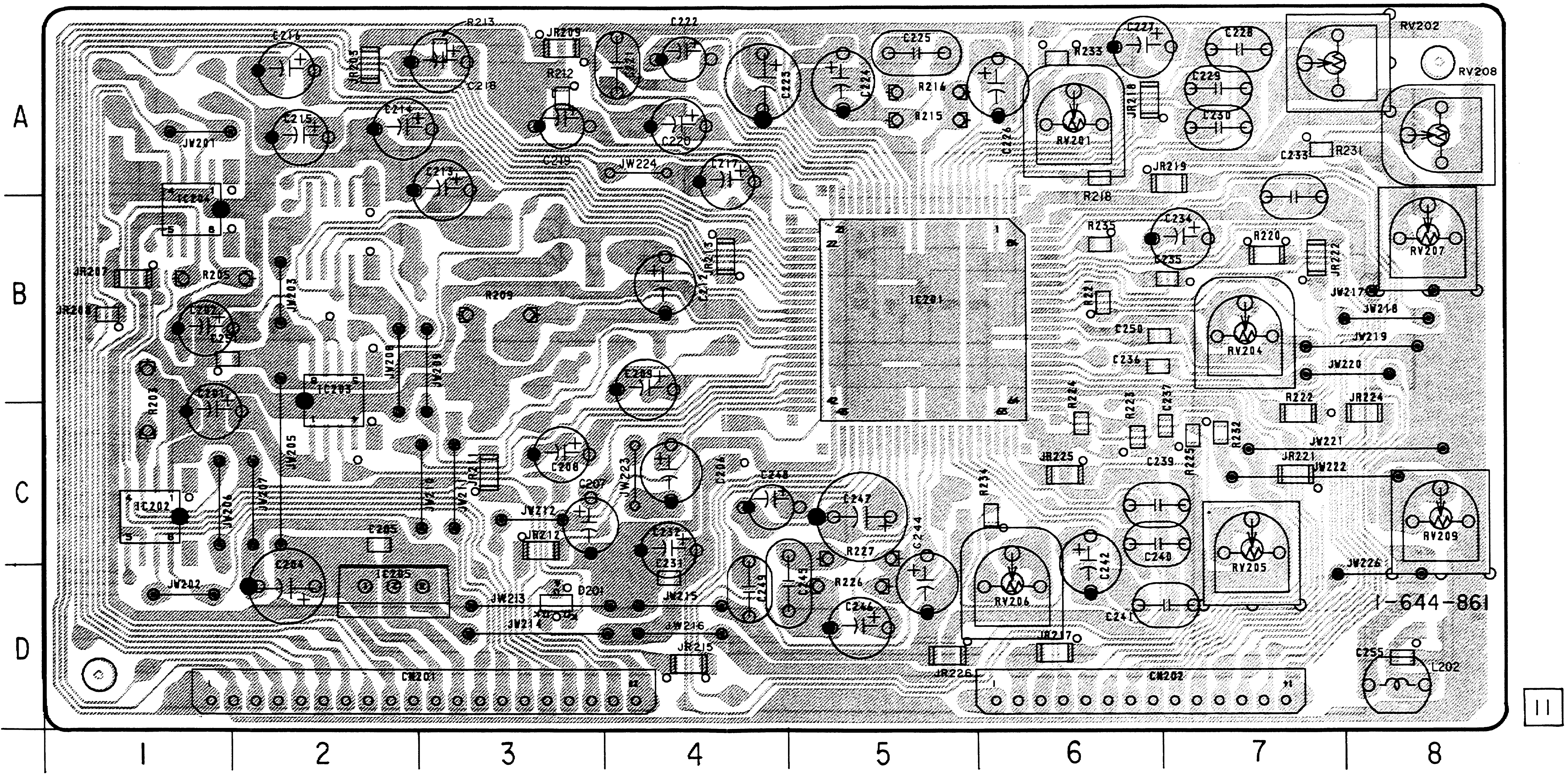
HF-26 (Hi-Fi AUDIO) PRINTED WIRING BOARD

– Ref. No. HF-26 BOARD : 17,000 Series –

HF-26 BOARD

D201	D-3
IC201	B-5
IC202	C-1
IC203	B-2
IC204	B-1
IC205	D-2

HF-26 BOARD


A
B
C
D
1
2
3
4
5
6
7
8
IC201
IC202
IC203
IC204
IC205
D201
CN201
CN202
RV201
RV202
RV204
RV205
RV206
RV207
RV208
RV209
L202
C255
JW201
JW202
JW203
JW205
JW206
JW207
JW213
JW214
JW215
JW216
JW217
JW218
JW219
JW220
JW221
JW222
JW224
JW226
JR207
JR208
JR209
JR211
JR212
JR213
JR215
JR217
JR219
JR221
JR222
JR224
JR225
JR226
R212
R213
R214
R215
R218
R220
R222
R226
R227
R231
R233
R235
C205
C207
C208
C214
C215
C216
C218
C219
C220
C222
C225
C226
C227
C228
C229
C230
C233
C234
C235
C236
C239
C240
C241
C242
C244
C246
C247
C248
C250
1-644-861
11

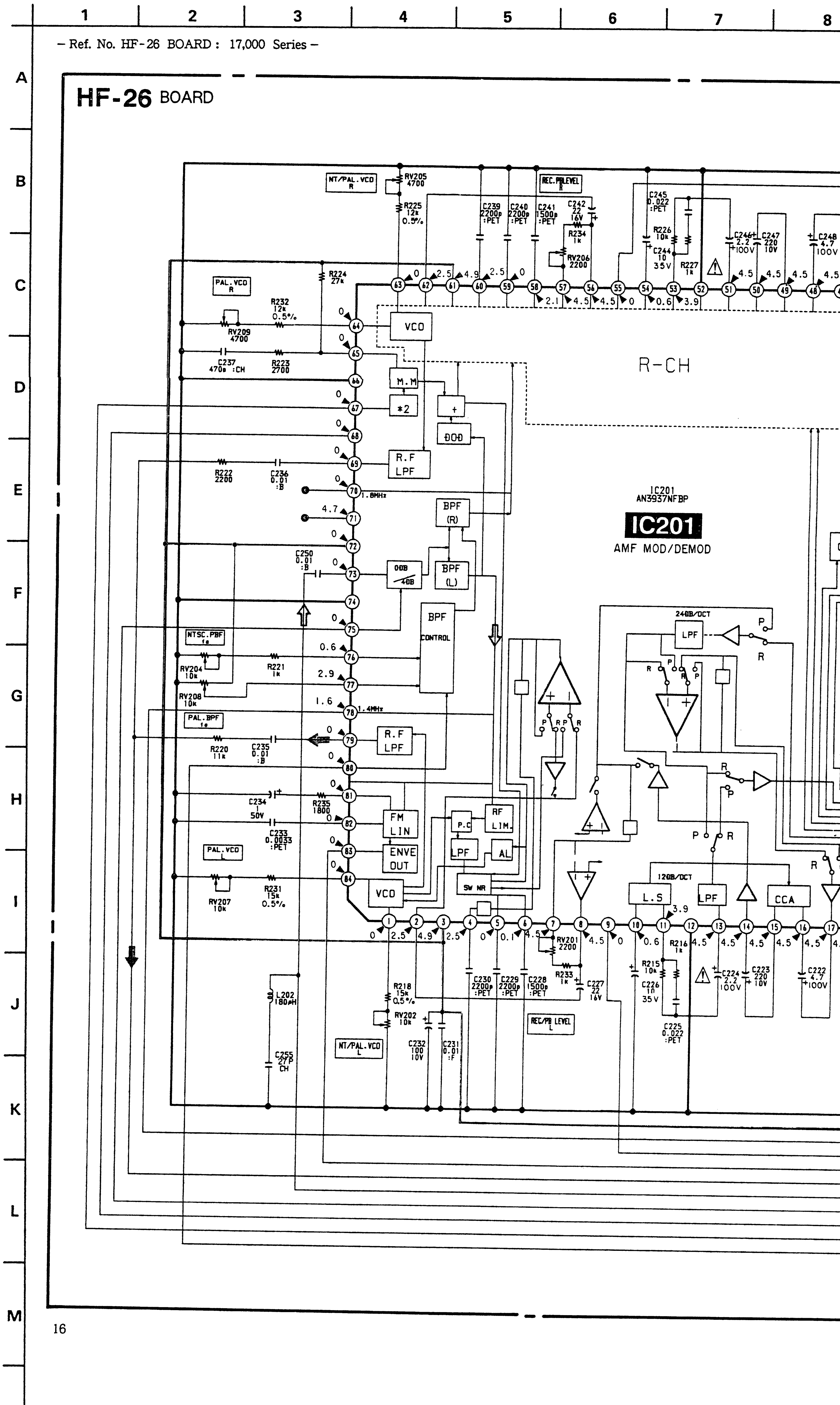
DIODE

D201 8-719-104-34 1S2836

IC

IC201 8-759-057-63 AN3937NFBP
IC202 8-759-946-44 TK15120M
IC203 8-759-924-46 BA4560F
IC204 8-759-946-44 TK15120M
IC205 8-759-938-15 BA178M05

HF-26 (HI-FI AUDIO) SCHEMATIC DIAGRAM



– Ref. No. HF-26 BOARD : 17,000 Series –

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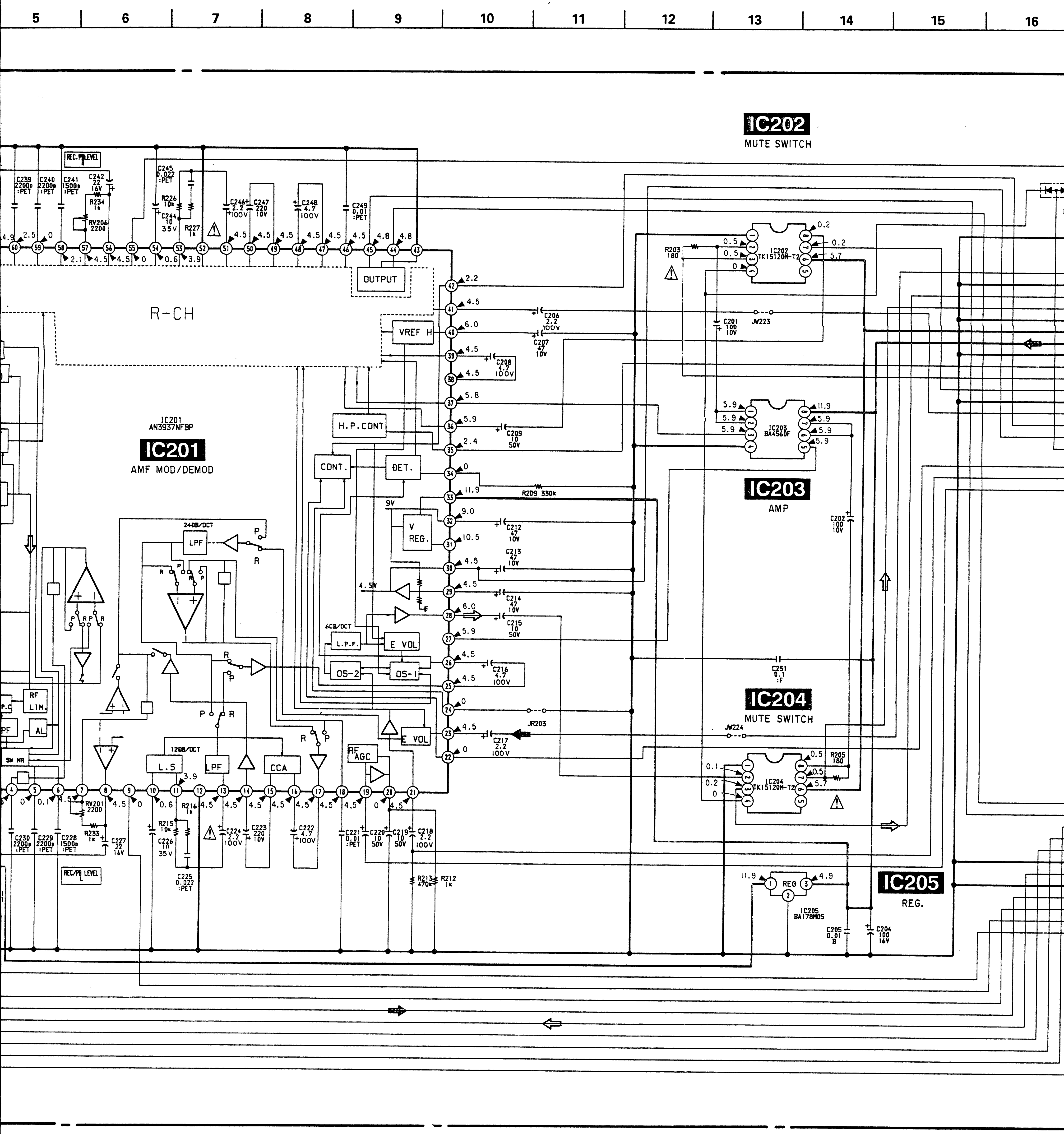
G
H
I
J
K
L
M
N
O
HF-26 BOARD
NT/PAL.VCO R
RV205 4700
R225 12k 0.5%
REC.PB LEVEL R
C239 2200p :PET
C240 2200p :PET
C241 1500p :PET
C242 22 16V
R234 1k
RV206 2200
C245 0.022 :PET
R226 10k
C244 10 35V
R227 1k
C246 2.2 100V
C247 220 10V
C248 4.7 100V
PAL.VCO R
R224 27k
R232 12k 0.5%
RV209 4700
C237 470p :CH
R223 2700
VCO
M.M
*2
+
DOD
R.F LPF
R-CH
R222 2200
C236 0.01 :B
1.8MHz
BPF (R)
BPF (L)
IC201 AN3937NFBP
IC201
AMF MOD/DEMOD
C250 0.01 :B
0dB/-40dB
BPF CONTROL
NTSC.PBF fe
RV204 10k
R221 1k
RV208 10k
1.4MHz
PAL.BPF fe
R220 11k
C235 0.01 :B
R.F LPF
24dB/OCT
LPF
C234 1 50V
R235 1800
C233 0.0033 :PET
FM LIN
ENVE OUT
P.C
RF LIM.
LPF
AL
PAL.VCO L
R231 15k 0.5%
RV207 10k
VCO
SW NR
12dB/OCT
L.S
LPF
CCA
RV201 2200
R233 1k
C227 22 16V
R215 10k
R216 1k
C226 10 35V
C224 2.2 100V
C223 220 10V
C222 4.7 100V
C230 2200p :PET
C229 2200p :PET
C228 1500p :PET
REC/PB LEVEL L
C225 0.022 :PET
R218 15k 0.5%
RV202 10k
NT/PAL.VCO L
C232 100 10V
C231 0.01 :F
L202 180μH
C255 27P CH
P
R

16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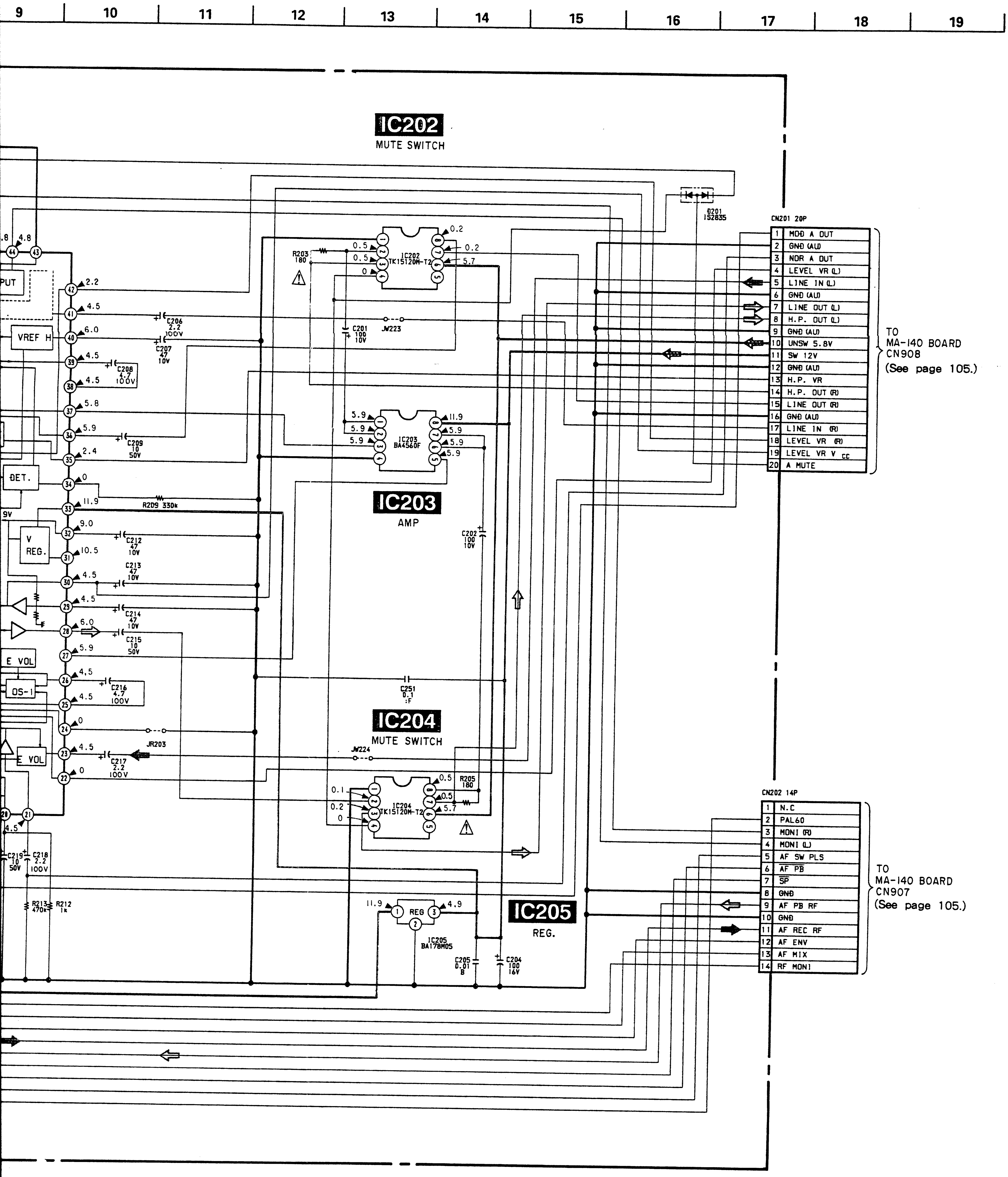
15
16
IC202
MUTE SWITCH
IC202
TK15120M-T2
IC201
AN3937NFBP
IC201
AMF MOD/DEMOD
R-CH
OUTPUT
VREF H
H.P.CONT
CONT.
DET.
V REG.
L.P.F.
E VOL
OS-2
OS-1
LPF
L.S
CCA
RF AGC
RF LIM.
AL
SW NR
REC.PB LEVEL R
REC/PB LEVEL L
IC203
AMP
IC203
BA4560F
IC204
MUTE SWITCH
IC204
TK15120M-T2
IC205
REG.
IC205
BA178M05
REG
R203 180
R205 180
R209 330k
R213 470k
R212 1k
JW223
JW224
JR203
C251 0.1 :F
C201 100 10V
C202 100 10V
C204 100 16V
C205 0.01 B
C206 2.2 100V
C207 47 10V
C208 4.7 100V
C209 10 50V
C212 47 10V
C213 47 10V
C214 47 10V
C215 10 50V
C216 4.7 100V
C217 2.2 100V
C218 2.2 100V
C219 10 50V
C220 10 50V
C221 0.01 :PET
C222 4.7 100V
C223 220 10V
C224 2.2 100V
C225 0.022 :PET
C226 1n 35V
C227 22 16V
C228 1500p :PET
C229 2200p :PET
C230 2200p :PET
C239 2200p :PET
C240 2200p :PET
C241 1500p :PET
C242 22 16V
C244 10 35V
C245 0.022 :PET
C246 2.2 100V
C247 220 10V
C248 4.7 100V
C249 0.01 :PET
R226 10k
R227 1k
R234 1k
RV206 2200
RV201 2200
R233 1k
R215 10k
R216 1k
24dB/OCT
12dB/OCT
6dB/OCT
9V
4.5V


9
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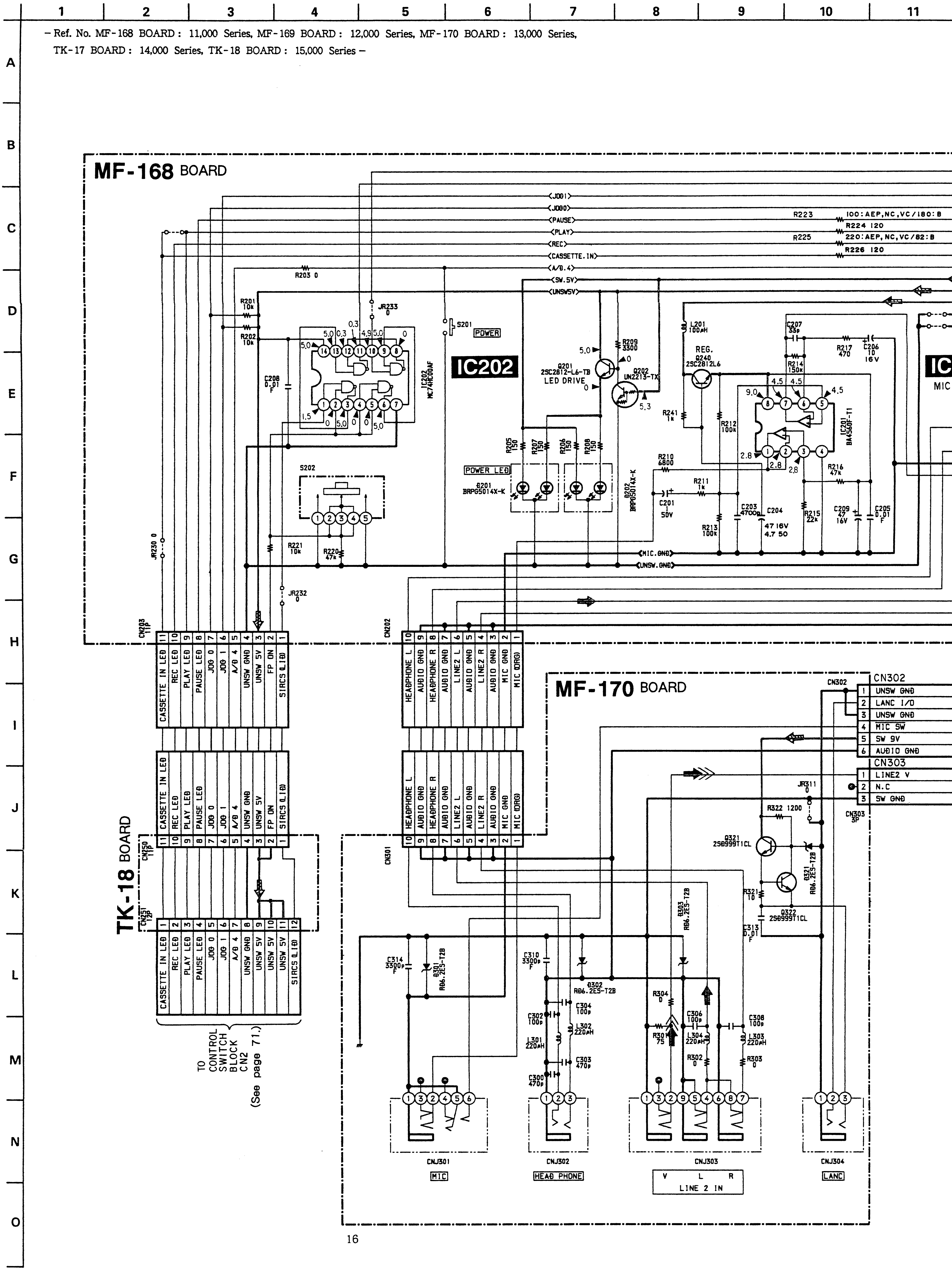
14
15
16
17
18
19
IC202
MUTE SWITCH
IC202
TK15120M-T2
0.5
0.5
0
0.2
0.2
5.7
R203
180
D201
1S2835
C201
100
10V
JW223
IC203
AMP
IC203
BA4560F
5.9
5.9
5.9
11.9
5.9
5.9
5.9
C202
100
10V
C251
0.1
:F
IC204
MUTE SWITCH
JW224
IC204
TK15120M-T2
0.1
0.2
0
0.5
0.5
5.7
R205
180
IC205
REG.
REG
11.9
4.9
IC205
BA178M05
C205
0.01
B
C204
100
16V
.8
4.8
PUT
VREF H
DET.
9V
V
REG.
E VOL
OS-1
E VOL
2.2
4.5
6.0
4.5
4.5
5.8
5.9
2.4
0
11.9
9.0
10.5
4.5
4.5
6.0
5.9
4,5
4.5
0
4.5
0
4.5
C206
2.2
100V
C207
47
10V
C208
4.7
100V
C209
10
50V
R209 330k
C212
47
10V
C213
47
10V
C214
47
10V
C215
10
50V
C216
4.7
100V
JR203
C217
2.2
100V
C219
10
50V
C218
2.2
100V
R213
470k
R212
1k
CN201 20P
1 MOD A OUT
2 GND (AU)
3 NOR A OUT
4 LEVEL VR (L)
5 LINE IN (L)
6 GND (AU)
7 LINE OUT (L)
8 H.P. OUT (L)
9 GND (AU)
10 UNSW 5.8V
11 SW 12V
12 GND (AU)
13 H.P. VR
14 H.P. OUT (R)
15 LINE OUT (R)
16 GND (AU)
17 LINE IN (R)
18 LEVEL VR (R)
19 LEVEL VR V CC
20 A MUTE
TO
MA-140 BOARD
CN908
(See page 105.)
CN202 14P
1 N.C
2 PAL60
3 MONI (R)
4 MONI (L)
5 AF SW PLS
6 AF PB
7 SP
8 GND
9 AF PB RF
10 GND
11 AF REC RF
12 AF ENV
13 AF MIX
14 RF MONI
TO
MA-140 BOARD
CN907
(See page 105.)

MF-168/MF-169/MF-170 (FRONT PANEL), TK-17/TK-18 (RELAY) SCHEMATIC DIAGRAMS

– Ref. No. MF-168 BOARD : 11,000 Series, MF-169 BOARD : 12,000 Series, MF-170 BOARD : 13,000 Series,
TK-17 BOARD : 14,000 Series, TK-18 BOARD : 15,000 Series –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A
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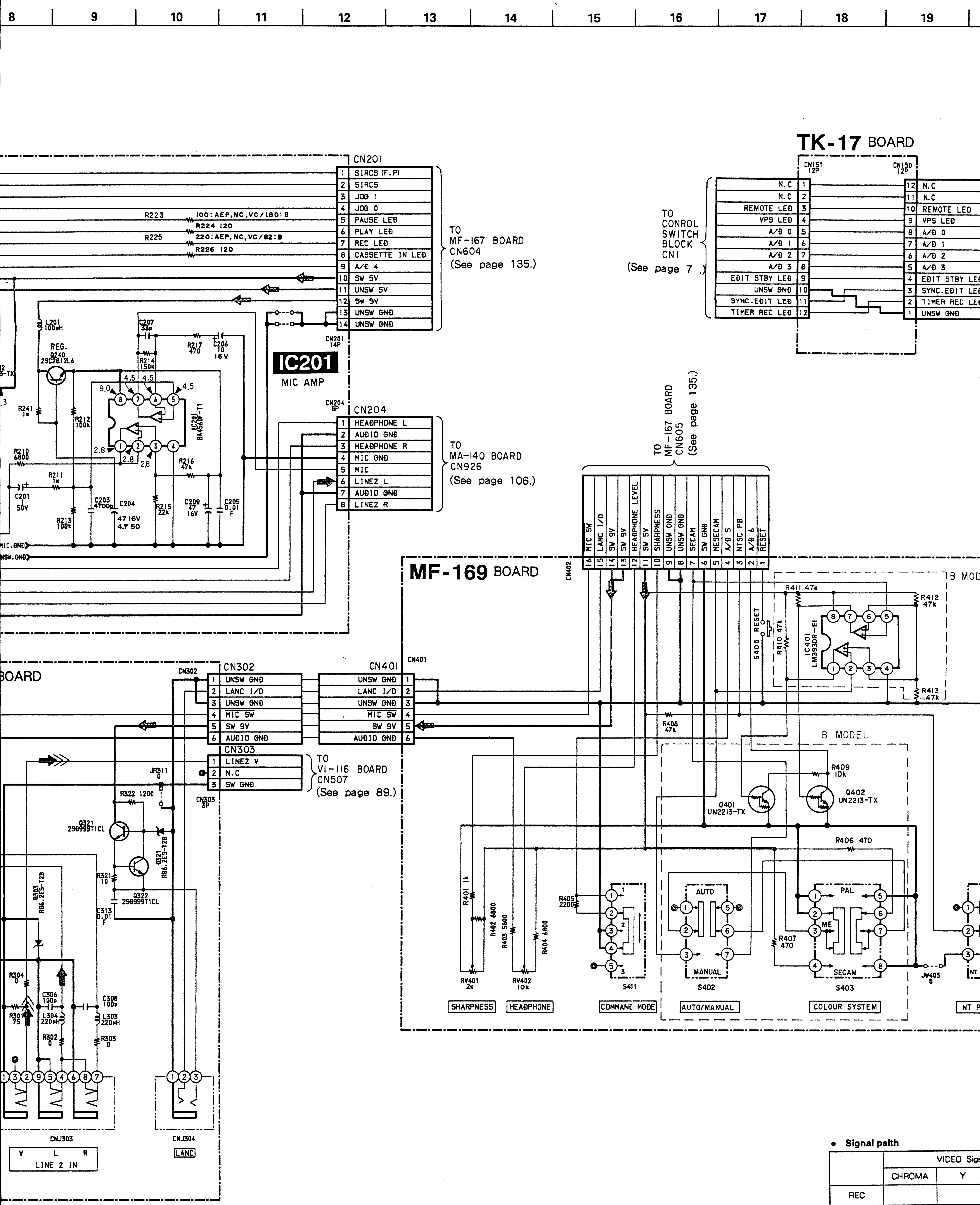
J
K
L
M
N
O
MF-168 BOARD
JOG1
JOG0
PAUSE
PLAY
REC
CASSETTE. IN
A/B. 4
SW. 5V
UNSW5V
R223
100 : AEP, NC, VC / 180 : B
R224 120
R225
220 : AEP, NC, VC / 82 : B
R226 120
R203 0
R201 10k
R202 10k
JR233 0
C208 0.01 F
IC202 MC74HC00AF
IC202
S201
POWER
S202
R221 10k
R220 47k
JR230 0
JR232 0
Q201 2SC2812-L6-TB LED DRIVE
Q202 UN2213-TX
R209 3300
R205 150
R207 150
R206 150
R208 150
POWER LED
D201 BRPG5014X-K
D202 BRPG5014X-K
L201 100μH
REG. Q240 2SC2812L6
C207 33p
R214 150k
R217 470
C206 10 16V
IC201 BA4560F-T1
IC
MIC
R241 1k
R212 100k
R210 6800
R211 1k
C201 1 50V
R213 100k
C203 4700p
C204 47 16V 4.7 50
R215 22k
R216 47k
C209 47 16V
C205 0.01 F
MIC. GND
UNSW. GND
CN203 11P
CN202
CASSETTE IN LED
REC LED
PLAY LED
PAUSE LED
JOG 0
JOG 1
A/B 4
UNSW GND
UNSW 5V
FP ON
SIRCS (LID)
HEADPHONE L
AUDIO GND
HEADPHONE R
AUDIO GND
LINE2 L
AUDIO GND
LINE2 R
AUDIO GND
MIC GND
MIC (ORG)
TK-18 BOARD
CN250 11P
CN251 12P
CN301
TO CONTROL SWITCH BLOCK CN2 (See page 71.)
MF-170 BOARD
CN302
CN302
UNSW GND
LANC I/O
UNSW GND
MIC SW
SW 9V
AUDIO GND
CN303
LINE2 V
N.C
SW GND
CN303 3P
JR311 0
R322 1200
Q321 2SB999T1CL
D321 RB6.2E5-T2B
R321 10
Q322 2SB999T1CL
C313 0.01 F
D303 RB6.2E5-T2B
C314 3300p F
D301 RB6.2E5-T2B
C310 3300p F
D302 RB6.2E5-T2B
C304 100p
C302 100p
L302 220μH
L301 220μH
C303 470p
C300 470p
R304 0
R301 75
C306 100p
L304 220μH
R302 0
C308 100p
L303 220μH
R303 0
CNJ301
MIC
CNJ302
HEAD PHONE
CNJ303
V L R
LINE 2 IN
CNJ304
LANC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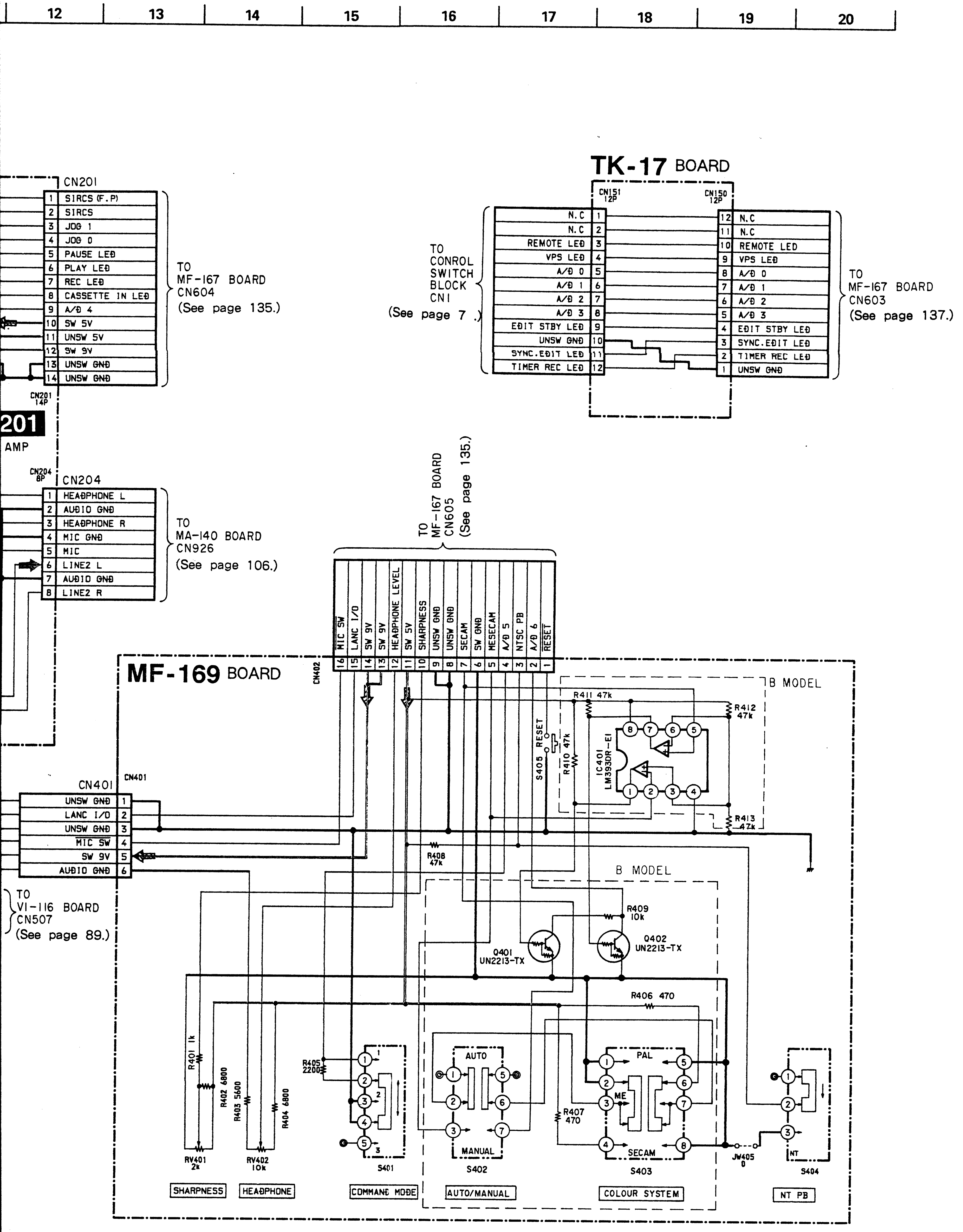
TK-17 BOARD
CN151 12P
CN150 12P
N.C
N.C
REMOTE LED
VPS LED
A/D 0
A/D 1
A/D 2
A/D 3
EDIT STBY LED
UNSW GND
SYNC.EDIT LED
TIMER REC LED
TO CONROL SWITCH BLOCK CN1 (See page 7.)
CN201
1 SIRCS (F.P)
2 SIRCS
3 JOG 1
4 JOG 0
5 PAUSE LED
6 PLAY LED
7 REC LED
8 CASSETTE IN LED
9 A/D 4
10 SW 5V
11 UNSW 5V
12 SW 9V
13 UNSW GND
14 UNSW GND
TO MF-167 BOARD CN604 (See page 135.)
R223
100:AEP,NC,VC/180:B
R224 120
R225
220:AEP,NC,VC/82:B
R226 120
CN201 14P
IC201
MIC AMP
IC201 BA4560F-T1
REG. Q240 2SC2812L6
L201 100μH
C207 33p
R217 470
C206 10 16V
R214 150k
R241 1k
R212 100k
R210 6800
R211 1k
C201 1 50V
R213 100k
C203 4700p
C204 47 16V 4.7 50
R215 22k
R216 47k
C209 47 16V
C205 0.01 F
MIC.GND
UNSW.GND
CN204 8P
CN204
1 HEADPHONE L
2 AUDIO GND
3 HEADPHONE R
4 MIC GND
5 MIC
6 LINE2 L
7 AUDIO GND
8 LINE2 R
TO MA-140 BOARD CN926 (See page 106.)
TO MF-167 BOARD CN605 (See page 135.)
MIC SW
LANC I/O
SW 9V
SW 9V
HEADPHONE LEVEL
SW 5V
SHARPNESS
UNSW GND
UNSW GND
SECAM
SW GND
MESECAM
A/D 5
NTSC PB
A/D 6
RESET
CN402
MF-169 BOARD
B MODEL
R411 47k
R412 47k
R413 47k
S405 RESET
R410 47k
IC401 LM393DR-E1
BOARD
CN302
1 UNSW GND
2 LANC I/O
3 UNSW GND
4 MIC SW
5 SW 9V
6 AUDIO GND
CN303
1 LINE2 V
2 N.C
3 SW GND
TO VI-116 BOARD CN507 (See page 89.)
CN303 3P
CN401
UNSW GND 1
LANC I/O 2
UNSW GND 3
MIC SW 4
SW 9V 5
AUDIO GND 6
R408 47k
R409 10k
Q401 UN2213-TX
Q402 UN2213-TX
R406 470
JR311 0
R322 1200
Q321 2SB999T1CL
D321 RD6.2ES-T2B
R321 10
Q322 2SB999T1CL
D303 RD6.2ES-T2B
C313 0.01 F
R304 0
R301 75
C306 100p
L304 220μH
C308 100p
L303 220μH
R302 0
R303 0
R401 1k
R402 6800
R403 5600
R404 6800
RV401 2k
RV402 10k
SHARPNESS
HEADPHONE
R405 2200
S401
COMMAND MODE
AUTO
MANUAL
S402
AUTO/MANUAL
R407 470
PAL
ME
SECAM
S403
COLOUR SYSTEM
JW405 0
NT
CNJ303
V L R
LINE 2 IN
CNJ304
LANC

• **Signal palth**

	VIDEO Sig	
	CHROMA	Y
REC		
PB		

FRONT PANEL FRONT PANEL


12
13
14
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19
20
TK-17 BOARD
CN151 12P
CN150 12P
N.C
N.C
REMOTE LED
VPS LED
A/D 0
A/D 1
A/D 2
A/D 3
EDIT STBY LED
UNSW GND
SYNC.EDIT LED
TIMER REC LED
TO CONROL SWITCH BLOCK CN1 (See page 7 .)
TO MF-167 BOARD CN603 (See page 137.)
CN201
SIRCS (F.P)
SIRCS
JOG 1
JOG 0
PAUSE LED
PLAY LED
REC LED
CASSETTE IN LED
A/D 4
SW 5V
UNSW 5V
SW 9V
UNSW GND
UNSW GND
TO MF-167 BOARD CN604 (See page 135.)
CN201 14P
201
AMP
CN204 8P
CN204
HEADPHONE L
AUDIO GND
HEADPHONE R
MIC GND
MIC
LINE2 L
AUDIO GND
LINE2 R
TO MA-140 BOARD CN926 (See page 106.)
TO MF-167 BOARD CN605 (See page 135.)
MIC SW
LANC I/O
SW 9V
SW 9V
HEADPHONE LEVEL
SW 5V
SHARPNESS
UNSW GND
UNSW GND
SECAM
SW GND
MESECAM
A/D 5
NTSC PB
A/D 6
RESET
MF-169 BOARD
CN402
B MODEL
R411 47k
R412 47k
S405 RESET
R410 47k
IC401 LM393DR-EI
R413 47k
CN401
UNSW GND
LANC I/O
UNSW GND
MIC SW
SW 9V
AUDIO GND
TO VI-116 BOARD CN507 (See page 89.)
R408 47k
B MODEL
R409 10k
Q401 UN2213-TX
Q402 UN2213-TX
R406 470
R401 1k
R402 6800
R403 5600
R404 6800
R405 2200
AUTO
PAL
ME
R407 470
MANUAL
SECAM
NT
JW405 0
RV401 2k
RV402 10k
S401
S402
S403
S404
SHARPNESS
HEADPHONE
COMMAND MODE
AUTO/MANUAL
COLOUR SYSTEM
NT PB

- **Signal palth**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			➡»	➡
PB				

MF-168/MF-169/MF-170 (FRONT PANEL), TK-17/TK-18 (RELAY) PRINTED WIRING BOARDS

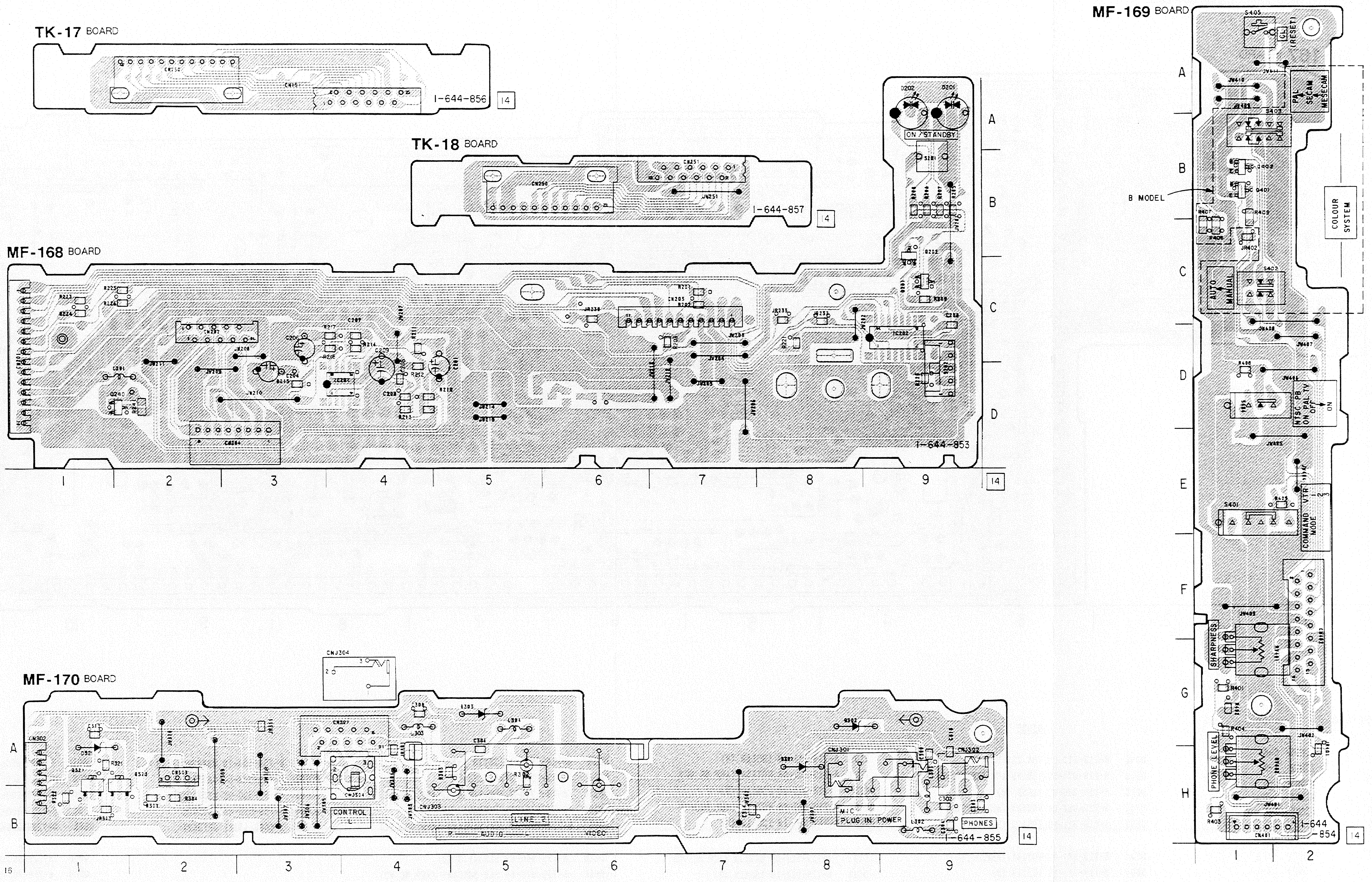
– Ref. No. MF-168 BOARD : 11,000 Series, MF-169 BOARD : 12,000 Series, MF-170 BOARD : 13,000 Series, TK-17 BOARD : 14,000 Series, TK-18 BOARD : 15,000 Series –

HF-168 BOARD

D201	A-9
D202	A-9
IC201	D-4
IC202	C-9
Q201	C-9
Q202	B-9
Q240	D-2

MF-170 BOARD

D301	A-8
D302	A-8
D303	A-5
D321	A-1
Q321	A-1
Q322	A-2


TK-17 BOARD
1-644-856
14
TK-18 BOARD
1-644-857
14
MF-168 BOARD
ON / STANDBY
1-644-853
14
MF-170 BOARD
CNJ304
CONTROL L
LINE 2
AUDIO
VIDEO
MIC PLUG IN POWER
PHONES
1-644-855
14
MF-169 BOARD
RESET
PAL SECAM MESECAM
B MODEL
COLOUR SYSTEM
AUTO MANUAL
NTSC PB ON PAL TV ON
COMMAND MODE VTR
SHARPNESS
PHONE LEVEL
1-644-854
14
A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8
9

DIODE

D201	8-719-988-92	BRPG5014X-K
D202	8-719-988-92	BRPG5014X-K

IC

IC201	8-759-924-46	BA4560F
IC202	8-759-032-32	MC74HC132AF

TRANSISTOR

Q201	8-729-230-49	2SC2712-G
Q202	8-729-421-19	UN2213
Q240	8-729-230-49	2SC2712-G

DIODE

D301	8-719-109-93	RD6.2ES-B2
D302	8-719-109-93	RD6.2ES-B2
D303	8-719-109-93	RD6.2ES-B2
D321	8-719-109-93	RD6.2ES-B2

MF-169 BOARD

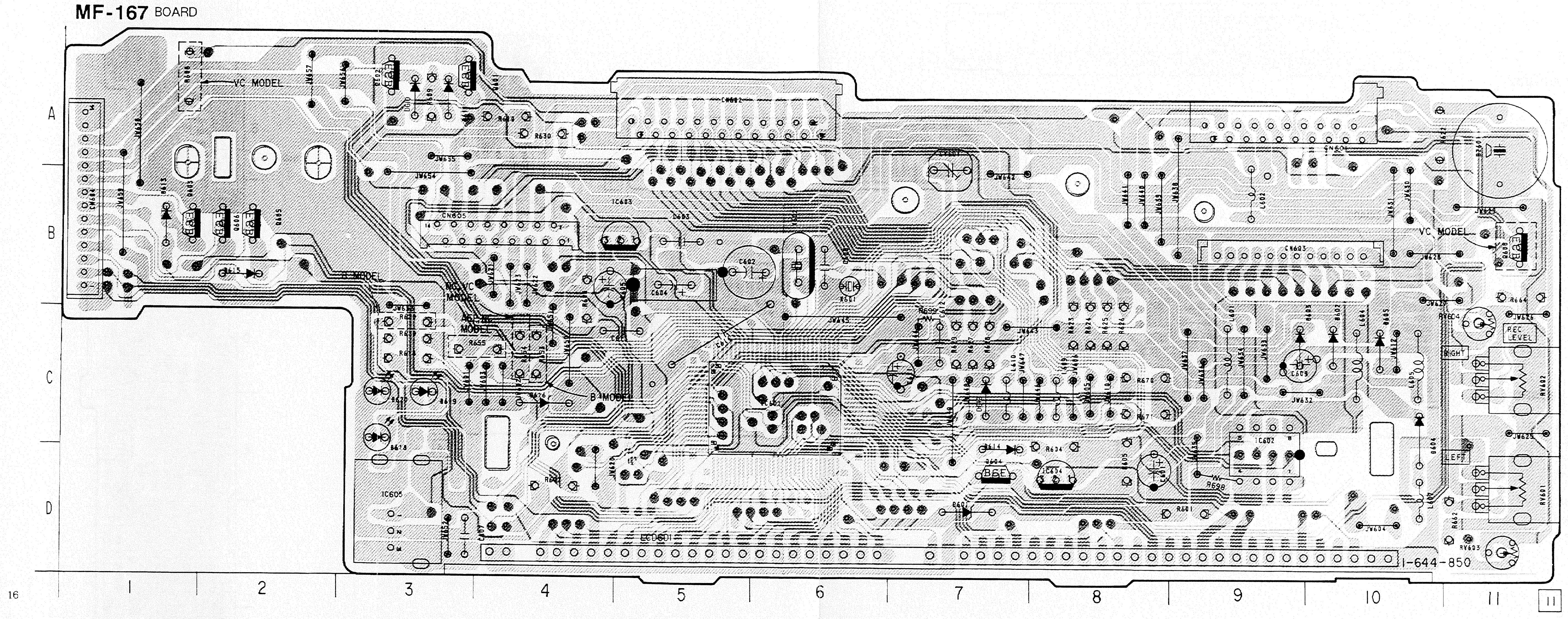
Q401	B-1
Q402	B-1

TRANSISTOR

Q401	8-729-421-19	UN2213 (B)
Q402	8-729-421-19	UN2213 (B)

MF-167 (DISPLAY PANEL) PRINTED WIRING BOARD

– Ref. No. MF-167 BOARD : 16,000 Series –


MF-167 BOARD
VC MODEL
B MODEL
NC,VC MODEL
AEP,NC MODEL
B MODEL
VC MODEL
REC LEVEL
RIGHT
LEFT
IC605
IC603
IC602
IC604
CN601
CN602
CN603
CN604
CN605
LCD601
BBE
RV601
RV602
RV603
RV604
1-644-850
A
B
C
D
16
1
2
3
4
5
6
7
8
9
10
11
11

MF-167 BOARD

D601	D-7
D601	D-7
D602	C-10
D603	C-9
D604	D-10
D605	C-10
D610	A-3
D611	A-3
D612	C-7
D613	B-1
D614	D-7
D615	B-2
D616	C-4
D618	C-3
D619	C-3
D620	C-3

IC601	C-6
IC602	C-9
IC603	B-4
IC604	D-7
IC605	D-3
Q601	A-4
Q602	A-3
Q603	B-1
Q604	D-7
Q605	B-2
Q606	B-2
Q608	B-11

DIODE

D601	8-719-110-08	RD8. 2ES-B2
D602	8-719-974-59	1SR139-100 (AEP, NC, VC)
D602	8-719-200-82	11ES2 (B)
D603	8-719-987-06	WG713A (AEP, NC, VC)
D603	8-719-911-19	1SS119 (B)
D604	8-719-987-06	WG713A (AEP, NC, VC)
D604	8-719-911-19	1SS119 (B)
D605	8-719-974-59	1SR139-100 (AEP, NC, VC)
D605	8-719-200-82	11ES2 (B)
D610	8-719-987-06	WG713A (AEP, NC, VC)
D610	8-719-911-19	1SS119 (B)
D611	8-719-987-06	WG713A (AEP, NC, VC)
D611	8-719-911-19	1SS119 (B)
D612	8-719-987-06	WG713A (AEP, NC, VC)
D612	8-719-911-19	1SS119 (B)
D613	8-719-987-06	WG713A (AEP, NC, VC)
D613	8-719-911-19	1SS119 (B)
D614	8-719-987-06	WG713A (AEP, NC, VC)
D614	8-719-911-19	1SS119 (B)
D615	8-719-987-06	WG713A (AEP, NC, VC)
D615	8-719-911-19	1SS119 (B)
D616	8-719-109-93	RD6. 2ES-B2
D618	8-719-970-67	SLR-34MCA49 (AEP, NC, VC)
D618	8-719-940-82	SLR34MC3 (B)
D619	8-719-970-68	SLR-34VCA49 (AEP, NC, VC)
D619	8-719-940-99	SLR34VC3 (B)
D620	8-719-970-68	SLR-34VCA49 (AEP, NC, VC)
D620	8-719-940-99	SLR34VC3 (B)

IC

IC601	8-759-094-10	MB89796B-104
IC602	8-759-748-54	CAT35C202P
IC603	8-759-520-98	PST572K
IC604	8-759-510-43	PST572C
IC605	1-466-131-21	GP1U52X

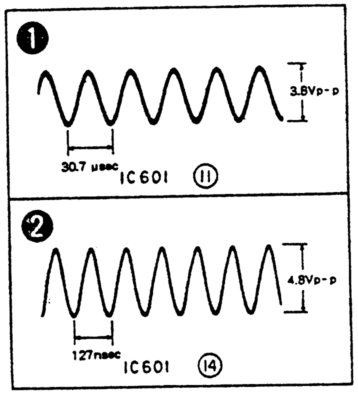
TRANSISTOR

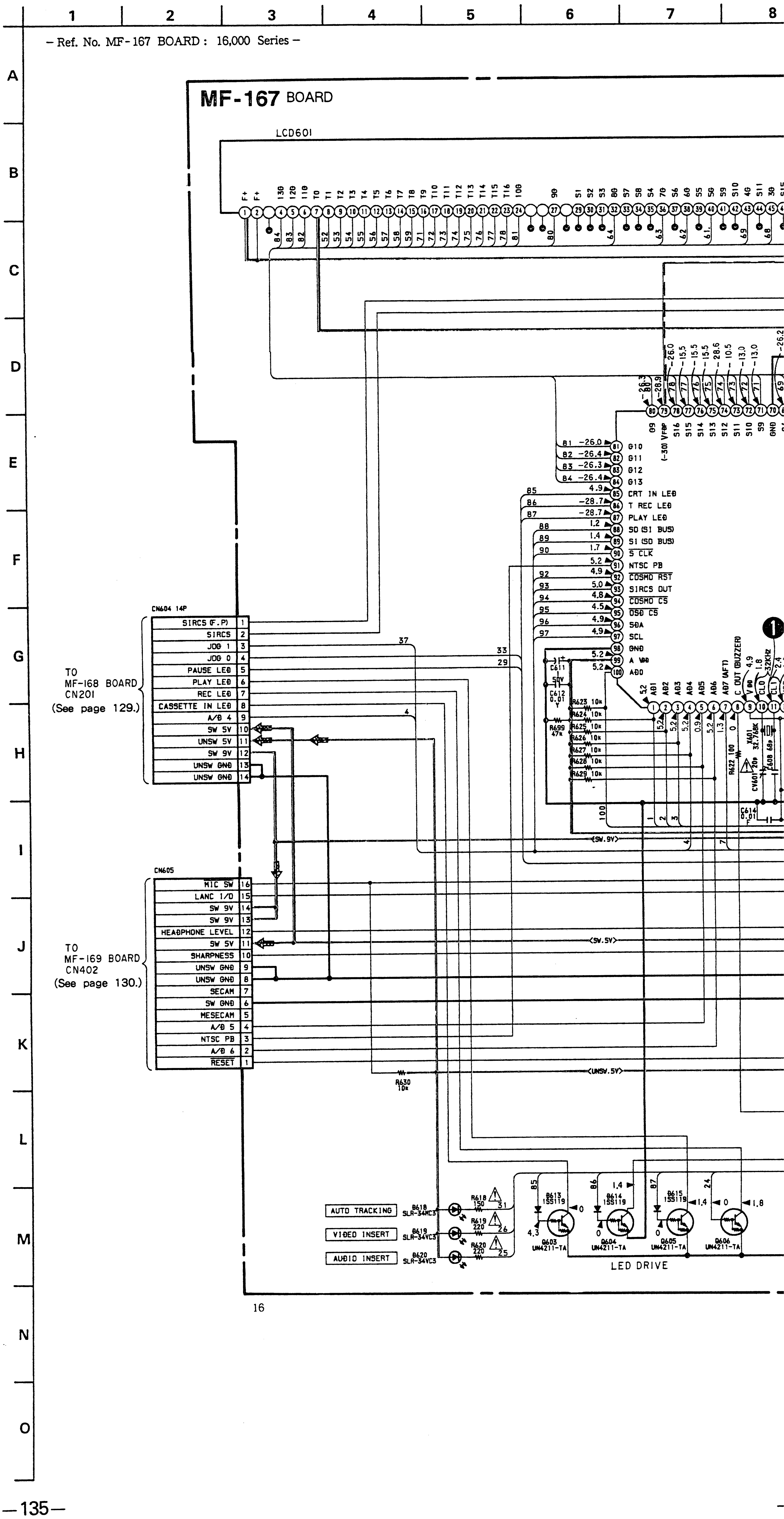
Q601	8-729-900-89	DTC144ES
Q602	8-729-900-89	DTC144ES
Q603	8-729-900-80	DTC114ES
Q604	8-729-900-80	DTC114ES
Q605	8-729-900-80	DTC114ES
Q606	8-729-900-80	DTC114ES
Q608	8-729-900-80	DTC114ES (VC)

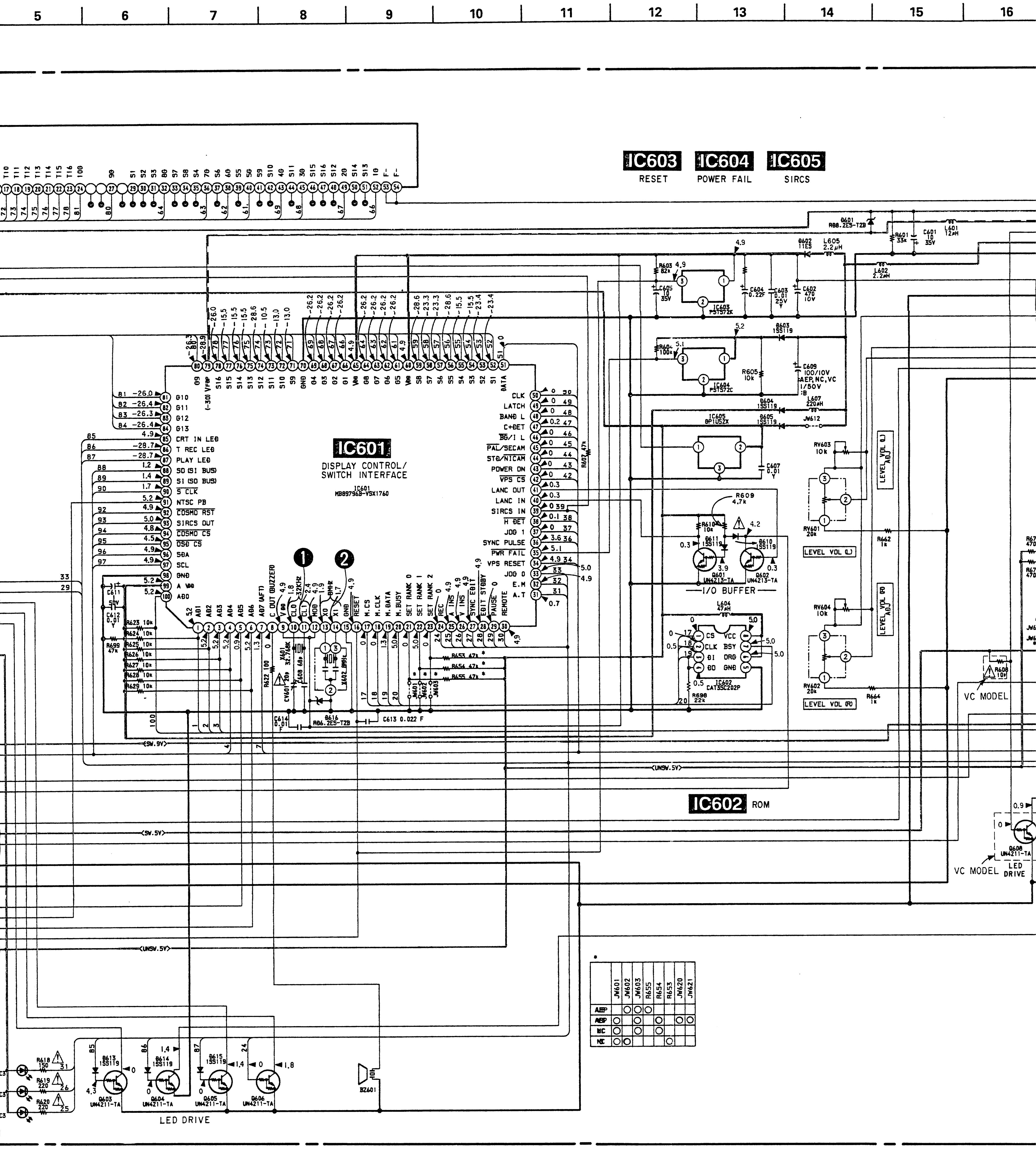
MF-167 (DISPLAY PANEL) SCHEMATIC DIAGRAM

– Ref. No. MF-167 BOARD : 16,000 Series –

MF-167 BOARD

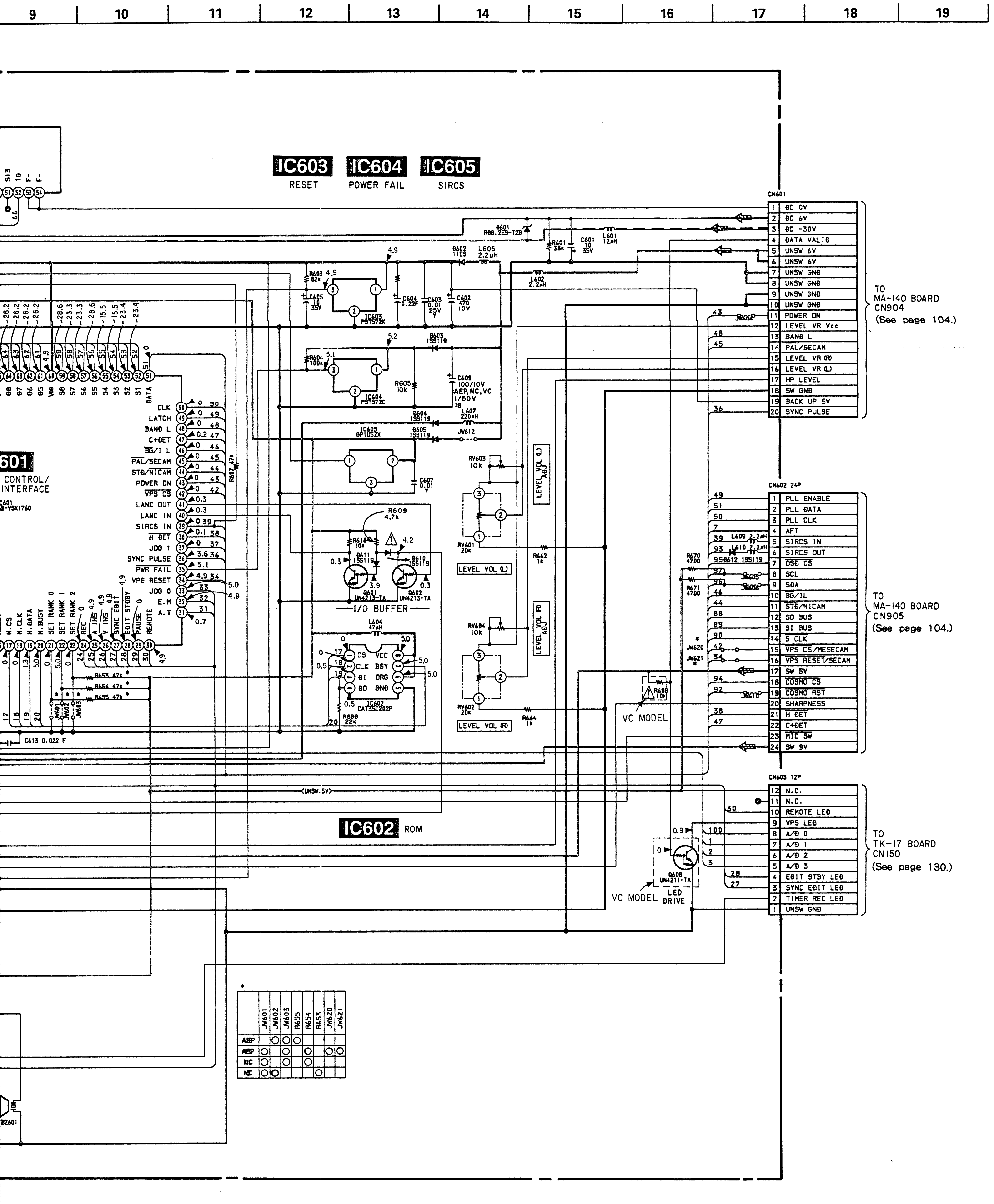



1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
MF-167 BOARD
LCD601
CN604 14P
SIRCS (F.P) 1
SIRCS 2
JOG 1 3
JOG 0 4
PAUSE LED 5
PLAY LED 6
REC LED 7
CASSETTE IN LED 8
A/B 4 9
SW 5V 10
UNSW 5V 11
SW 9V 12
UNSW GND 13
UNSW GND 14
TO MF-168 BOARD CN201 (See page 129.)
CN605
MIC SW 16
LANC I/O 15
SW 9V 14
SW 9V 13
HEADPHONE LEVEL 12
SW 5V 11
SHARPNESS 10
UNSW GND 9
UNSW GND 8
SECAM 7
SW GND 6
MESECAM 5
A/B 5 4
NTSC PB 3
A/B 6 2
RESET 1
TO MF-169 BOARD CN402 (See page 130.)
G10
G11
G12
G13
CRT IN LED
T REC LED
PLAY LED
SO (SI BUS)
SI (SO BUS)
S CLK
NTSC PB
COSMO RST
SIRCS OUT
COSMO CS
OSD CS
SDA
SCL
GND
A VDD
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7 (AFT)
C OUT (BUZZER)
VDD
CL0
CL1
32KHz
G9
(-30) VFDP
S16
S15
S14
S13
S12
S11
S10
S9
GND
<SW.9V>
<SW.5V>
<UNSW.5V>
R630 10k
R622 100
X601 32.768K
CV601 20p
C608 68p
C614 0.01
C611
C612 0.01
R699 47k
R623 10k
R624 10k
R625 10k
R626 10k
R627 10k
R628 10k
R629 10k
AUTO TRACKING
VIDEO INSERT
AUDIO INSERT
D618 SLR-34MC3
D619 SLR-34VC3
D620 SLR-34VC3
R618 150
R619 220
R620 220
D613 1SS119
D614 1SS119
D615 1SS119
Q603 UN4211-TA
Q604 UN4211-TA
Q605 UN4211-TA
Q606 UN4211-TA
LED DRIVE
16


IC601
DISPLAY CONTROL/
SWITCH INTERFACE
IC601
MB89796B-VSX1760
IC602 ROM
IC602
CAT35C202P
IC603 RESET
IC604 POWER FAIL
IC605 SIRCS
IC603
PST572K
IC604
PST572C
IC605
BP1U52X
I/O BUFFER
LED DRIVE
VC MODEL
VC MODEL LED DRIVE
LEVEL VOL (L)
LEVEL VOL (R)
LEVEL VOL (L) ADJ
LEVEL VOL (R) ADJ
RV601 20k
RV602 20k
RV603 10k
RV604 10k
Q601 UN4213-TA
Q602 UN4213-TA
Q603 UN4211-TA
Q604 UN4211-TA
Q605 UN4211-TA
Q606 UN4211-TA
Q608 UN4211-TA
BZ601
X601 32.768K
X602 8MHz
C613 0.022 F
L604 47μH
L605 2.2μH
L602 2.2μH
L601 12μH
L607 220μH
C609 100/10V
D601 RB8.2ES-TZB
D616 RB6.2ES-TZB
D602 11ES
D603 1SS119
D604 1SS119
D605 1SS119
D610 1SS119
D611 1SS119
D613 1SS119
D614 1SS119
D615 1SS119
R609 4.7k
R607 47k
R653 47k
R654 47k
R655 47k
R698 22k
R622 100
R618 150
R619 220
R620 220
<SW.9V>
<SW.5V>
<UNSW.5V>
5
6
7
8
9
10
11
12
13
14
15
16

*

	JW601	JW602	JW603	R655	R654	R653	JW620	JW621
AEP		○	○	○				
AEP	○		○		○		○	○
NC	○		○		○			
NE	○	○				○		

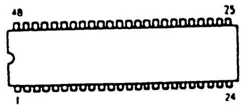

9
10
11
12
13
14
15
16
17
18
19
IC603
RESET
IC604
POWER FAIL
IC605
SIRCS
601
CONTROL/
INTERFACE
C601
B-VSX1760
DATA
CLK
LATCH
BAND L
C+DET
BG/I L
PAL/SECAM
STD/NICAM
POWER ON
VPS CS
LANC OUT
LANC IN
SIRCS IN
H DET
JOG 1
SYNC PULSE
PWR FAIL
VPS RESET
JOG 0
E.M
A.T
M.CS
M.CLK
M.DATA
M.BUSY
SET RANK 0
SET RANK 1
SET RANK 2
REC
A INS
V INS
SYNC EDIT
EDIT STDBY
PAUSE
REMOTE
G8
G7
G6
G5
VDD
S8
S7
S6
S5
S4
S3
S2
S1
-26.2
-28.6
-23.3
-15.5
-23.4
R607 47k
R653 47k
R654 47k
R655 47k
JW601
JW602
JW603
C613 0.022 F
IC603 PST572K
IC604 PST572C
IC605 BP1U52X
R603 82k
R604 100k
R605 10k
C605 10 35V
C604 0.22F
C603 0.01 25V
C602 470 10V
C609 100/10V AEP,NC,VC 1/50V :B
C607 0.01
D602 11ES
D603 1SS119
D604 1SS119
D605 1SS119
L605 2.2µH
L602 2.2µH
L607 220µH
JW612
D601 RD8.2ES-TZB
R601 33k
C601 10 35V
L601 12µH
R609 4.7k
R610 10k
D611 1SS119
D610 1SS119
Q601 UN4213-TA
Q602 UN4213-TA
I/O BUFFER
L604 47µH
IC602 CAT35C202P
CS
CLK
DI
DO
VCC
BSY
ORG
GND
R698 22k
IC602 ROM
RV603 10k
RV601 20k
R662 1k
LEVEL VOL (L)
LEVEL VOL (L) ADJ
RV604 10k
RV602 20k
R664 1k
LEVEL VOL (R)
LEVEL VOL (R) ADJ
<UNSW.5V>
R608 10k
VC MODEL
Q608 UN4211-TA
LED DRIVE
R670 4700
R671 4700
L609 2.2µH
L610 2.2µH
D612 1SS119
JW605
JW606
JW604
JW610
JW620
JW621
CN601
1 DC 0V
2 DC 6V
3 DC -30V
4 DATA VALID
5 UNSW 6V
6 UNSW 6V
7 UNSW GND
8 UNSW GND
9 UNSW GND
10 UNSW GND
11 POWER ON
12 LEVEL VR Vcc
13 BAND L
14 PAL/SECAM
15 LEVEL VR (R)
16 LEVEL VR (L)
17 HP LEVEL
18 SW GND
19 BACK UP 5V
20 SYNC PULSE
TO MA-140 BOARD CN904 (See page 104.)
CN602 24P
1 PLL ENABLE
2 PLL DATA
3 PLL CLK
4 AFT
5 SIRCS IN
6 SIRCS OUT
7 OSD CS
8 SCL
9 SDA
10 BG/IL
11 STD/NICAM
12 SO BUS
13 SI BUS
14 S CLK
15 VPS CS/MESECAM
16 VPS RESET/SECAM
17 SW 5V
18 COSMO CS
19 COSMO RST
20 SHARPNESS
21 H DET
22 C+DET
23 MIC SW
24 SW 9V
TO MA-140 BOARD CN905 (See page 104.)
CN603 12P
12 N.C.
11 N.C.
10 REMOTE LED
9 VPS LED
8 A/D 0
7 A/D 1
6 A/D 2
5 A/D 3
4 EDIT STBY LED
3 SYNC EDIT LED
2 TIMER REC LED
1 UNSW GND
TO TK-17 BOARD CN150 (See page 130.)
BZ601

*

	JW601	JW602	JW603	R655	R654	R653	JW620	JW621
AEP		○	○	○				
AEP	○		○		○		○	○
NC	○		○		○			
VC	○	○				○		

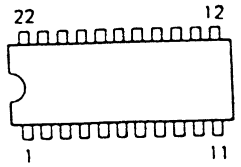
4-3. SEMICONDUCTORS

AN3231K



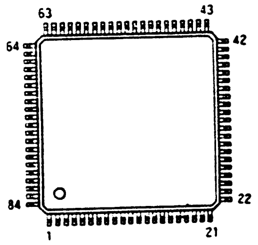
TOP VIEW

AN3327K



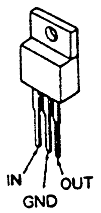
(Top view)

AN3937NFBP

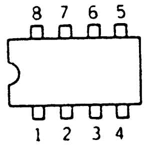

63
43
64
42
84
22
1
21

(TOP VIEW)

BA178M05

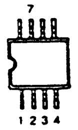


BA4560
CXL5003P
CAT35C202P
MSM6989RS
RC4558P
TL082ACP



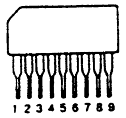
(Top view)

BA4560F
BA4558F
MM1148XFF
MM1149XF
TK15120M

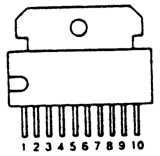


TOP VIEW

BA6138
BA7021
LVA519S
MM1053XS

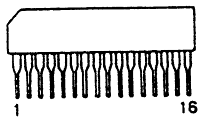


BA6238A

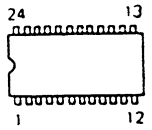

1 2 3 4 5 6 7 8 9 10

Making side view

BA7007

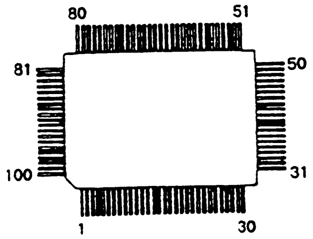


BH7733S
TA8823N

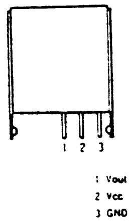


(Top view)

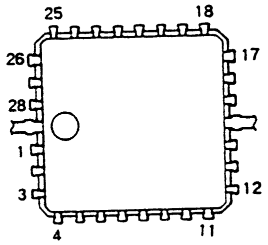
CXP80724-040Q
HD49410
MB89796B-VSX1760
MB89796B-104


80
51
81
50
100
31
1
30

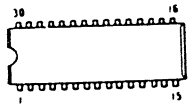
GP1U52X


1 2 3
1 Vout
2 Vcc
3 GND

HA11535MP
HA11567MP
HA118088MP

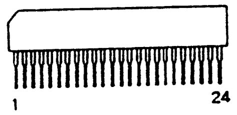

25
18
26
17
28
1
3
12
4
11

HA118162NT
HA118016NT

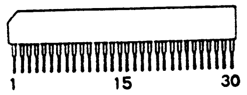


(Top view)

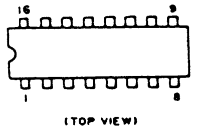
HM53461ZP-12



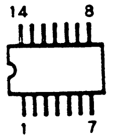
LA7297



MC14053BCP
TC4053BF

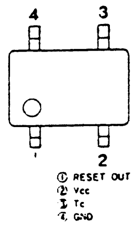

16
9
1
8
(TOP VIEW)

MC14001BF
MC74HC132AF
SN74HC74ANS

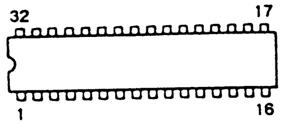


TOP VIEW

AN3916
MM1031XMR

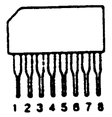

4
3
1
2
① RESET OUT
② Vcc
③ Tc
④ GND

M50555-VSX1760

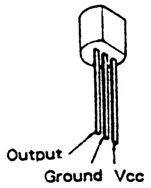


TOP VIEW

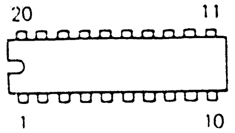
BA7611AN
M5201L



PST572C
PST572H
PST572K-T

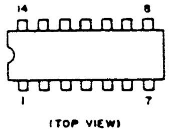

Output
Ground
Vcc

TDA8415

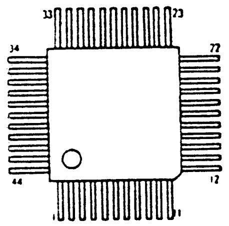


(Top view)

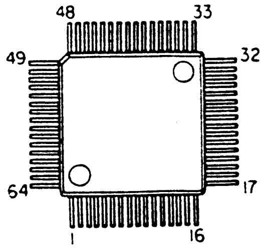
SDA5642
uPC324C


14
8
1
7
(TOP VIEW)

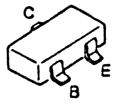
uPD75004GB-VSX182


33
23
34
22
44
12

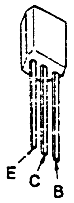
uPD78013GC-VSX1760


48
33
49
32
64
17
1
16

DTA114EK
DTA143EK
DTC114EK
DTC124EK
DTC144EK
UN2113
UN2213
2SA1052-C
2SA1162
2SB709A-R
2SC1623-L5L6
2SC2412K-QR
2SC2712-G
2SC3142-J4
2SD601A-R



DTA144ES
DTC114ES



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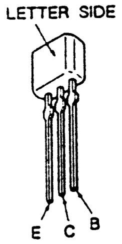
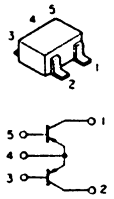
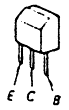
UN411L
2SA1309A-R
2SC2785-HFE


LETTER SIDE
E
C
B

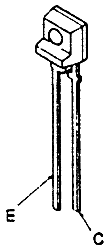
FMS1


4
5
3
2
1
5
4
3
1
2

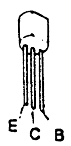
KSA708
KSC1008



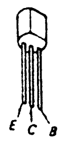
PT483F1S



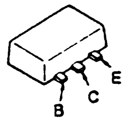
2SC1509



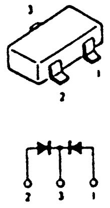
2SD655-E



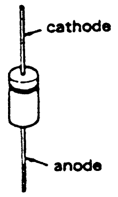
2SB1000A-L
2SD999-CLCK
2SD1005-BV



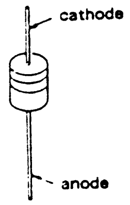
MA152WK



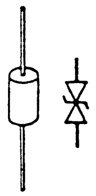
RD13ES-B2


cathode
anode

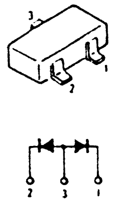
RD33ES-B2
RD33ES-T2B
RD4.3ES-T2B
RD4.7ES-T2B
RD6.2ES-B2
RD6.8ES-B2
RD8.2ES-B2
11ES2
1SS119


cathode
anode

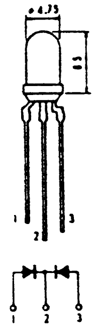
RD9.1E-W



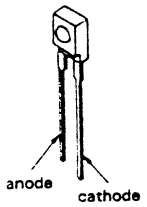
1S2836



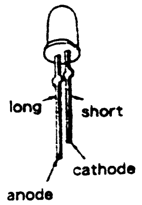
BRPG5014X-K



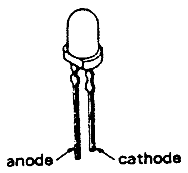
GL451VS1


anode
cathode

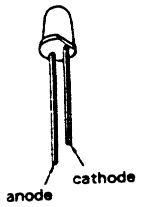
PY5504S-1


long
short
cathode
anode

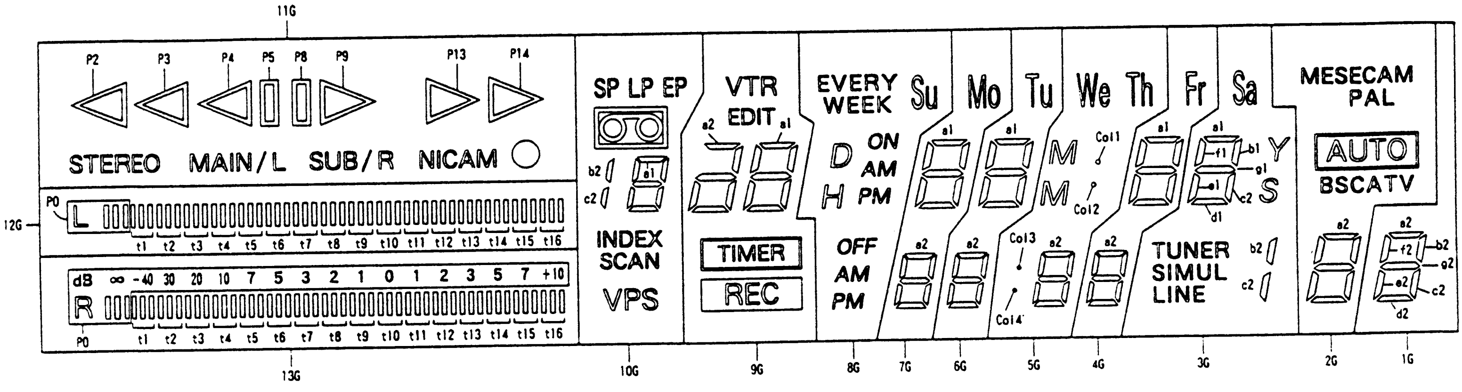
SLR34DC3
SLR-34UC3


anode
cathode

SLR34MC3
SLR34VC3


anode
cathode

4-4. INDICATOR TUBE, FLUORESCENT DESCRIPTION


11G
P2
P3
P4
P5
P8
P9
P13
P14
STEREO
MAIN/L
SUB/R
NICAM
SP LP EP
VTR
EDIT
EVERY WEEK
Su
Mo
Tu
We
Th
Fr
Sa
MESECAM
PAL
AUTO
BSCATV
D
H
ON
AM
PM
OFF
AM
PM
INDEX
SCAN
VPS
TIMER
REC
TUNER
SIMUL
LINE
M
M
Y
S
Col1
Col2
Col3
Col4
a1
a2
b1
b2
c2
d1
d2
e1
e2
f1
f2
g1
g2
12G
P0
L
R
dB ∞ -40 30 20 10 7 5 3 2 1 0 1 2 3 5 7 +10
t1 t2 t3 t4 t5 t6 t7 t8 t9 t10 t11 t12 t13 t14 t15 t16
13G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G

- Interconnection of electrodes

Lead No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Interconnected electrodes	F (+)	F (+)	NP	13G	12G	11G	S0	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	10G	NP	NP	9G
Lead No.	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Interconnected electrodes	NP	NC	NC	NC	8G	NC	NC	NC	7G	NC	6G	NC	5G	NC	NC	4G	NC	3G	NC	NC	NC	2G	NC	NC	1G	F (-)	F (-)

- Anode connection

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S0	dB∞ ~+10 R |||	L |||											
S1	t1	t1	STEREO	LP	EDIT	PM(Bottom)	d2	d2	d2	d2	LINE	d2	d2
S2	t2	t2	◁(Left)	Ib2 Ic2	e2	AM(Bottom)	e2	e2	e2	e2	SIMUL	e2	e2
S3	t3	t3	◁(Center)	VPS	c2	OFF	c2	c2	c2	c2	TUNER	c2	c2
S4	t4	t4	◁(Right)	SCAN	REC		g2	g2	g2	g2		g2	g2
S5	t5	t5	▢(Left)	INDEX	TIMER		f2	f2	f2	f2		f2	f2
S6	t6	t6t	MAIN/	SP	b2		b2	b2	b2	b2	I b2 I c2	b2	b2
S7	t7	t7	L	▭	g2		a2	a2	a2	a2	S	a2	a2
S8	t8	t8	▢(Right)		a2, d2						Y	BS	
S9	t9	t9	▷(Left)	d1	d1		d1	d1	col 4	d1	d1	CATV	
S10	t10	t10	SUB/	e1	e1	PM(Upper)	e1	e1	col 3	e1	e1	AUTO	
S11	t11	t11	R	c1	c1	H	c1	c1	M(Bottom)	c1	c1		
S12	t12	t12	NICAM	g1	g1	AM(Upper)	g1	g1	col 2	g1	g1		
S13	t13	t13	▷(Center)	f1	f1	ON	f1	f1	col 1	f1	f1		
S14	t14	t14	▷(Right)	b1	b1	D	b1	b1	M(Upper)	b1	b1	PAL	
S15	t15	t15	○	a1	a1	Su	a1	a1	Th	a1	a1	SECAM	
S16	t16	t16		EP	VTR	EVERY WEEK	Mo	Tu	We	Fr	Sa	ME	

SECTION 5

EXPLODED VIEWS

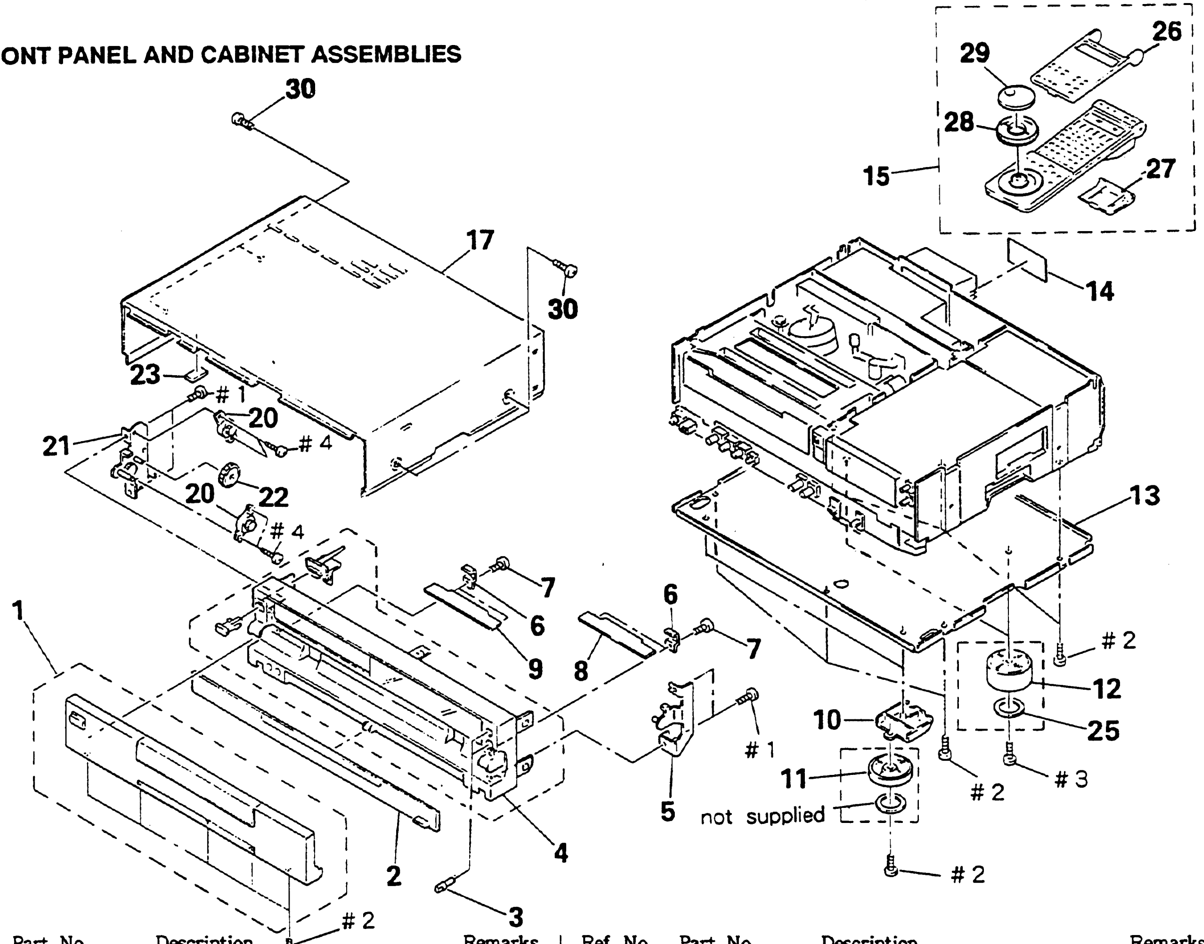
NOTE:

- −XX, −X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

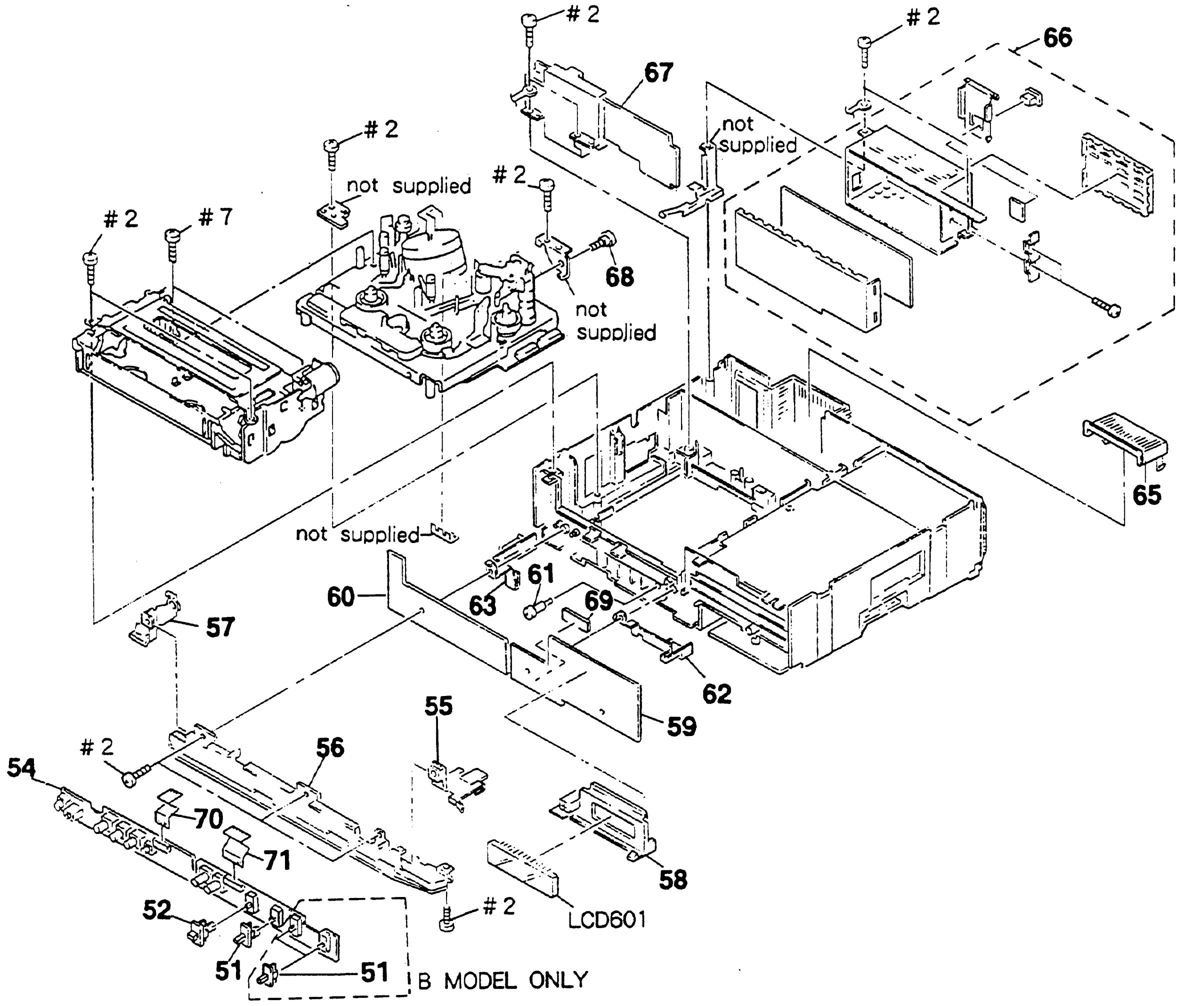
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spéci-fie.

5-1. FRONT PANEL AND CABINET ASSEMBLIES



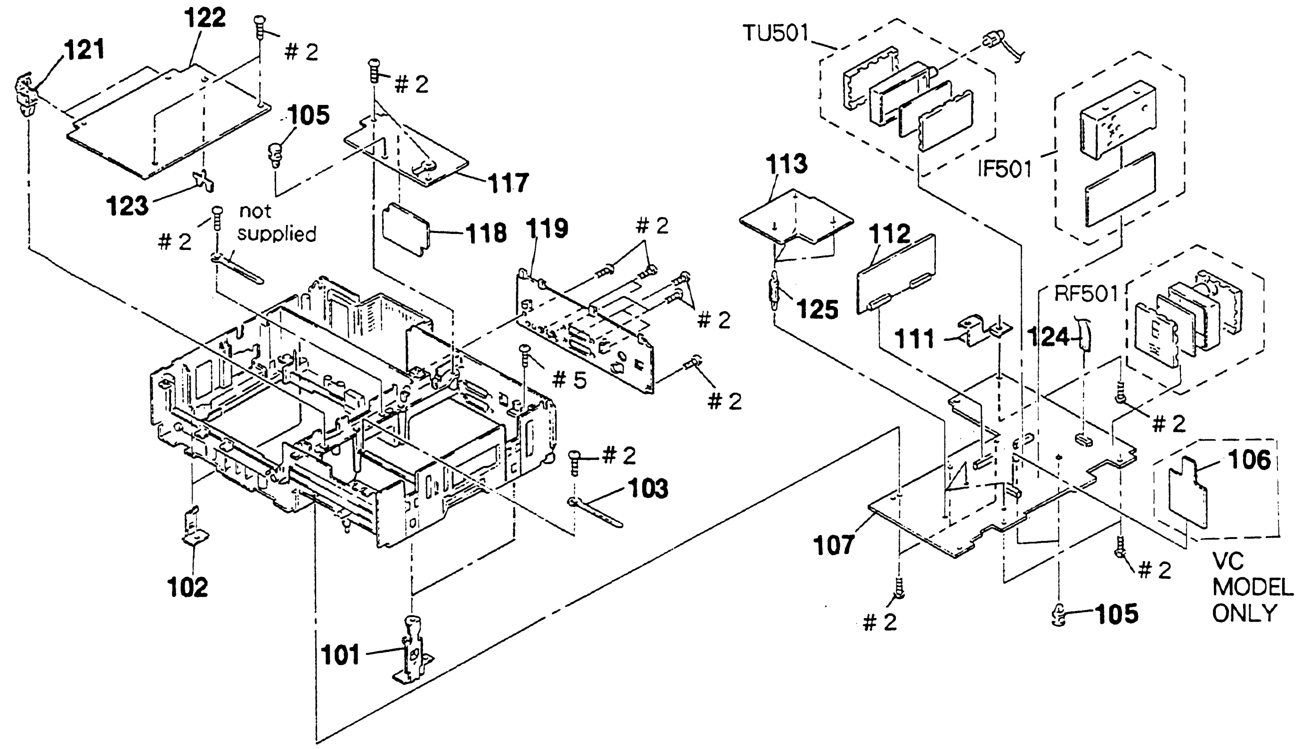
Ref. No.	Part No.	Description	Remarks
1	1-466-749-31	SWITCH BLOCK, CONTROL (AEP, NC)	
1	1-466-749-41	SWITCH BLOCK, CONTROL (VC)	
1	1-466-749-71	SWITCH BLOCK, CONTROL (B)	
2	X-3941-735-1	DOOR ASSY (AEP, VC)	
2	X-3941-736-1	DOOR ASSY (NC)	
2	X-3941-887-1	DOOR ASSY (B)	
3	3-948-155-01	KNOB, REC VOL	
4	X-3941-734-1	PANEL ASSY, FRONT (NC)	
4	X-3941-737-1	PANEL ASSY, FRONT (AEP, VC)	
4	X-3941-738-1	PANEL ASSY, FRONT (B)	
5	X-3941-677-1	PLATE (R) ASSY, FULCRUM	
* 6	3-743-640-01	RETAINER, PC BOARD	
7	4-921-277-11	SCREW (B2.6X8), TAPPING, BIND	
* 8	1-644-856-14	TK-17 BOARD	
* 9	1-644-857-14	TK-18 BOARD	
10	3-948-122-01	FOOT (BASE)	
11	X-3941-672-1	FOOT ASSY (FRONT)	
12	X-4924-422-1	FOOT ASSY	
* 13	3-944-552-01	PLATE, BOTTOM (B)	
* 13	3-948-836-01	PLATE, BOTTOM (AEP, NC, VC)	
* 14	3-948-331-01	LABEL, MODEL NUMBER (AEP)	
* 14	3-948-332-01	LABEL, MODEL NUMBER (VC)	
* 14	3-948-336-01	LABEL, MODEL NUMBER (NC)	
15	1-693-178-21	REMOTE COMMANDER (RMT-V127A)	
17	3-944-553-11	COVER, UPPER (B)	
* 17	3-948-837-01	COVER, UPPER (AEP, NC, VC)	
20	3-712-786-21	DUMPER, OIL	
21	X-3941-676-1	PLATE (L) ASSY, FULCRUM	
22	3-948-151-01	GEAR (B), MIDWAY	
* 23	4-911-047-01	VIBRATION CONTROL (D)	
25	4-923-836-11	CUSHION	
26	3-948-143-31	DOOR (NC)	
27	3-744-080-01	COVER, BATTERY	
28	3-744-078-01	RING, SHUTTLE	
29	3-744-077-01	KNOB, SHUTTLE	
30	3-710-901-11	SCREW (TP3X8), CASE (AEP, NC, VC)	

5-2. POWER SUPPLY BLOCK ASSEMBLY



Ref. No.	Part No.	Description	Remarks
51	3-948-152-01	KNOB, SLIDE	
52	3-743-636-21	KNOB, SLIDE	
* 53	A-6755-628-A	MF-169 BOARD, COMPLETE (AEP,NC,VC)	
* 53	A-6755-811-A	MF-169 BOARD, COMPLETE (B)	
* 54	A-6755-629-A	MF-170 BOARD, COMPLETE (AEP,NC,VC)	
* 54	A-6755-814-A	MF-170 BOARD, COMPLETE (B)	
* 55	3-948-133-01	BRACKET (R), GROUND	
* 56	3-948-156-01	HOLDER, PWB	
* 57	3-948-134-01	BRACKET (L), GROUND	
* 58	3-948-157-01	HOLDER, FL	
59	A-6720-488-A	MF-167 BOARD, COMPLETE (VC)	
59	A-6720-517-A	MF-167 BOARD, COMPLETE (B)	
* 59	A-6721-487-A	MF-167 BOARD, COMPLETE (NC)	
59	A-6721-488-A	MF-167 BOARD, COMPLETE (VC)	
* 59	A-6721-490-A	MF-167 BOARD, COMPLETE (AEP)	
59	A-6721-517-A	MF-167 BOARD, COMPLETE (B)	
* 60	A-6755-466-A	MF-168 BOARD, COMPLETE (B)	
* 60	A-6755-627-A	MF-168 BOARD, COMPLETE (AEP,NC,VC)	
61	3-741-948-01	SCREW (3), SPECIAL (+) TAPPING	
61	3-741-948-11	SCREW (3), SPECIAL (+) TAPPING (B)	
* 62	3-944-614-01	PLATE, GROUND, JK	
* 63	3-944-613-01	PLATE, GROUND, MF	
* 65	3-946-136-11	COVER (S), REAR	
⚠66	1-413-756-11	POWER BLOCK (SR-425) (AEP,B,NC)	
⚠66	1-413-758-11	POWER BLOCK (SR-427) (VC)	
* 67	A-6727-445-A	RP-147 BOARD, COMPLETE (AEP,NC,VC)	
* 67	A-6727-467-A	RP-147 BOARD, COMPLETE (B)	
68	3-736-055-01	SCREW (3X8), TAPPING	
* 69	3-350-683-01	CUSHION (LED), RUBBER	
70	1-696-439-11	WIRE, FLAT TYPE (10 CORE)	
71	1-696-440-11	WIRE, FLAT TYPE (16 CORE)	
LCD601	1-519-507-41	INDICATOR TUBE, FLUORESCENT	

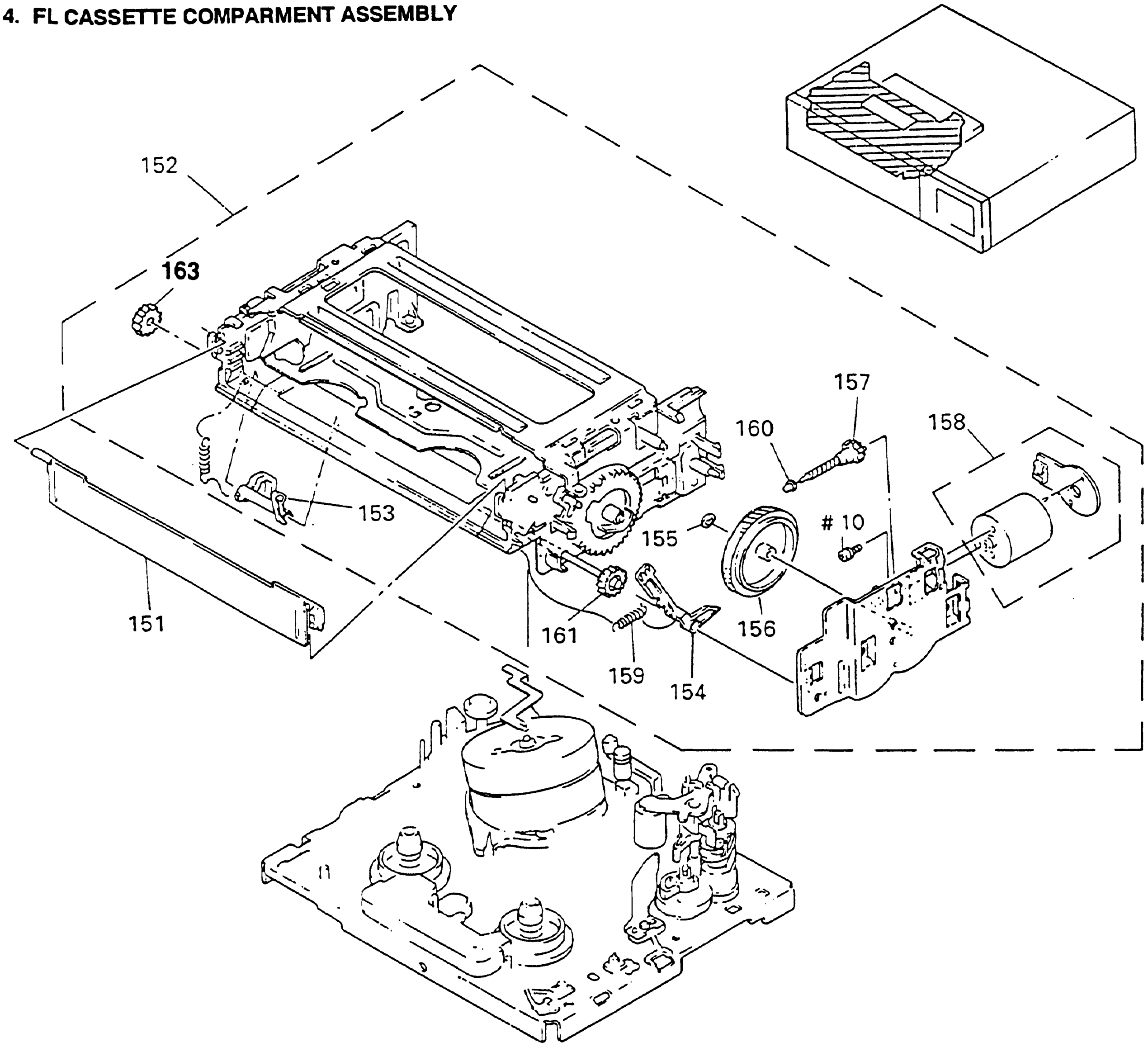
5-3. MAIN BOARDS ASSEMBLY



Ref. No.	Part No.	Description	Remarks
* 101	3-945-137-01	STOPPER (L), UPPER COVER	
102	3-741-992-01	STOPPER, UPPER CASE	
103	3-703-150-11	STOPPER, WIRING	
105	3-682-057-11	SPACER (SMALL)	
* 106	A-6755-622-A	VP-33 BOARD, COMPLETE (VC)	
* 107	A-6756-619-A	MA-140 BOARD, COMPLETE (NC)	
* 107	A-6756-624-A	MA-140 BOARD, COMPLETE (VC)	
* 107	A-6756-632-A	MA-140 BOARD, COMPLETE (AEP)	
* 107	A-6756-816-A	MA-140 BOARD, COMPLETE (B)	
* 111	3-741-962-01	PLATE, GROUND, JMP (B)	
* 112	A-6721-475-A	HF-26 BOARD, COMPLETE (B)	
* 112	A-6721-491-A	HF-26 BOARD, COMPLETE (AEP, NC, VC)	
* 113	A-6721-481-A	CG-15 BOARD, COMPLETE (B)	
* 113	A-6721-489-A	CG-15 BOARD, COMPLETE (VC)	
* 113	A-6756-633-A	CG-15 BOARD, COMPLETE (AEP, NC)	
* 117	A-6755-623-A	VI-116 BOARD, COMPLETE (VC)	
* 117	A-6755-630-A	VI-116 BOARD, COMPLETE (AEP, NC)	
* 117	A-6755-815-A	VI-116 BOARD, COMPLETE (B)	
* 118	A-6755-568-A	CN-62 BOARD, COMPLETE (B)	
* 118	A-6755-621-A	CN-62 BOARD, COMPLETE (VC)	
* 118	A-6755-631-A	CN-62 BOARD, COMPLETE (AEP, NC)	
* 119	3-948-132-01	PLATE, ORNAMENTAL, JACK (AEP, NC)	
119	3-948-132-11	PLATE, ORNAMENTAL, JACK (VC)	
119	3-948-132-31	PLATE, ORNAMENTAL, JACK (B)	
121	3-736-704-01	HINGE, PC BOARD	
* 122	A-6727-444-A	YC-124 BOARD, COMPLETE (VC)	
* 122	A-6727-446-A	YC-124 BOARD, COMPLETE (AEP, NC)	
* 122	A-6727-465-A	YC-124 BOARD, COMPLETE (B)	
* 123	3-948-127-01	HOLDER, HF	
124	1-696-438-11	WIRE, FLAT TYPE (13 CORE) (B, VC)	
125	3-945-945-01	SUPPORT (DIA. 3), PCB	
⚠IF501	1-466-539-21	IF BLOCK (IFZ-389ST) (AEP, VC)	
⚠IF501	1-466-540-11	IF BLOCK (IFZ-389FE) (B)	
⚠IF501	1-466-538-11	IF BLOCK (IFZ-389NC) (NC)	
⚠RF501	1-466-328-11	MODULATOR, RF (RFU-2017) (AEP, NC, VC)	
⚠RF501	1-466-348-11	MODULATOR, RF (RFU-2023) (B)	
TU501	1-465-260-11	TUNER, ET (BTP-2C401) (AEP, NC, VC)	

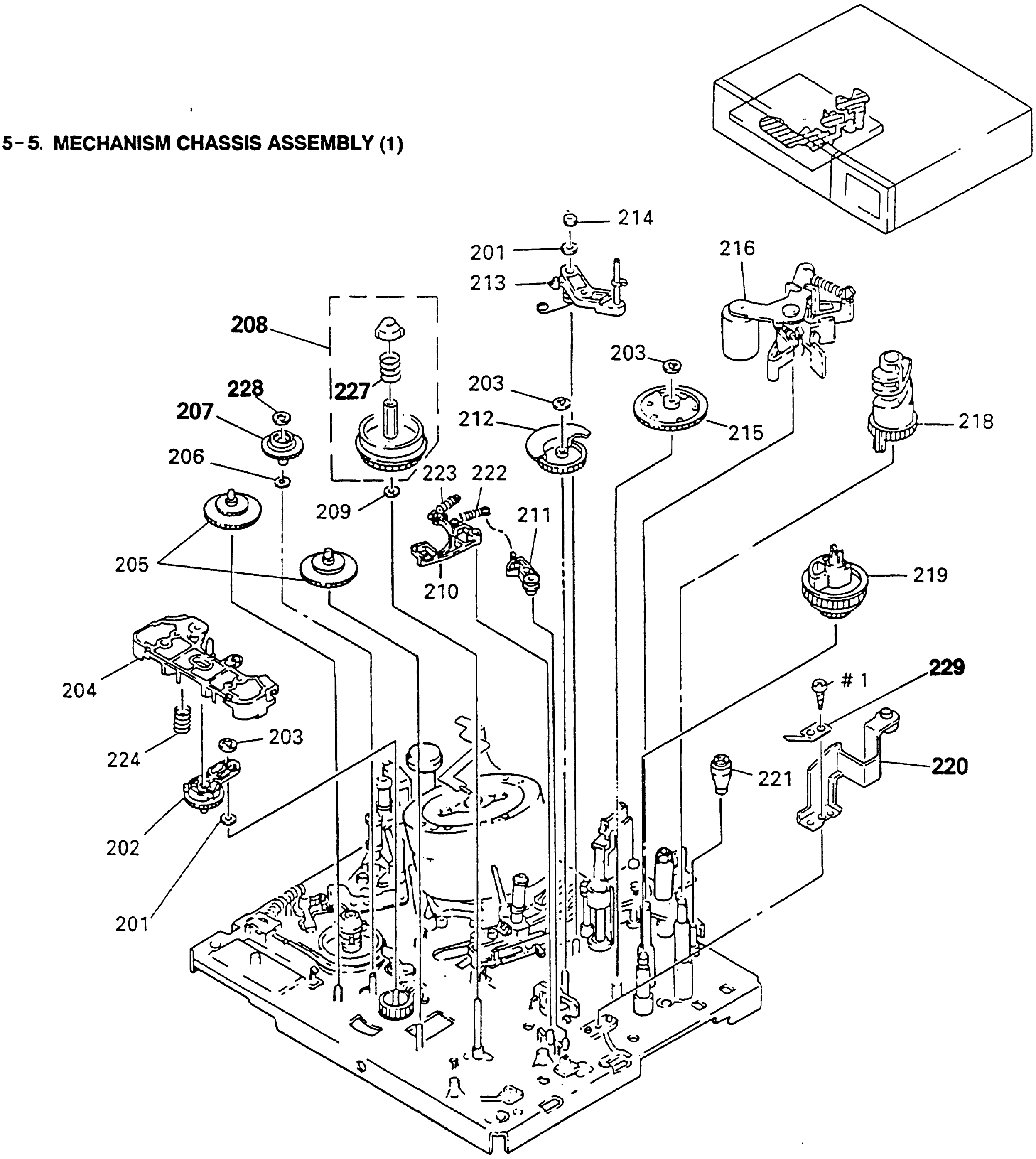
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-4. FL CASSETTE COMPARMENT ASSEMBLY



Ref. No.	Part No.	Description	Remarks
151	3-945-199-11	DOOR, FL	
152	A-6751-453-A	FL BLOCK ASSY	
153	3-736-163-01	LEVER, ERASING PROTECTION	
154	3-736-167-01	ARM, DOOR SWITCHING	
155	3-696-510-01	WASHER (3), STOPPER	
156	3-736-164-01	WHEEL (FL), WORM	
157	3-736-100-01	GEAR (FL), WORM	
158	X-3727-784-1	MOTOR ASSY	
159	3-738-285-01	SPRING, TENSION	
160	3-716-144-02	RETAINER, WORM	
161	X-3727-775-2	GEAR (RIGHT) ASSY, MIDWAY	
163	3-736-044-02	GEAR (LEFT), MIDWAY	

5-5. MECHANISM CHASSIS ASSEMBLY (1)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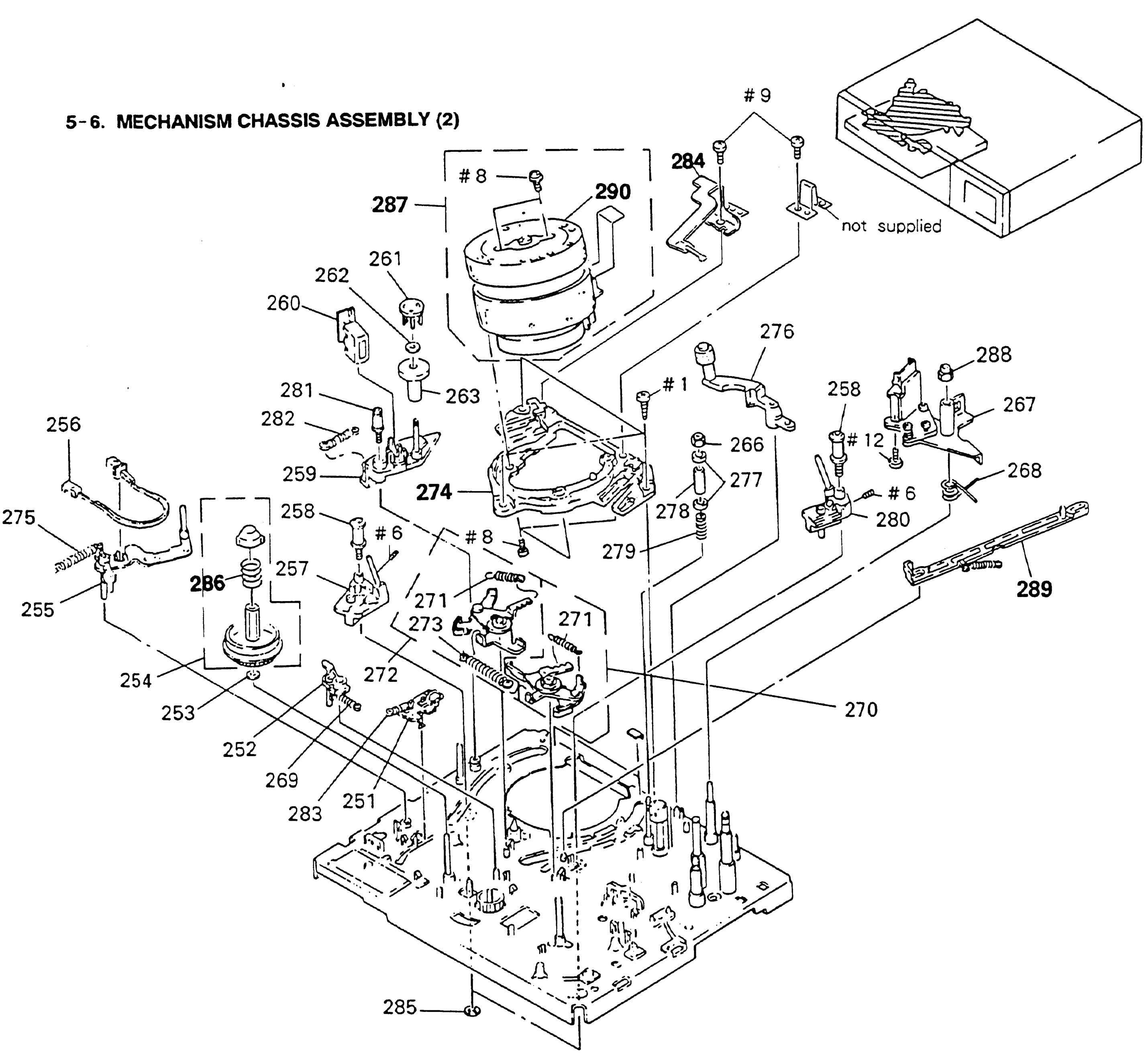
Ref. No.	Part No.	Description	Remarks
201	3-701-438-11	WASHER, 2.5	
202	X-3727-776-1	ARM ASSY, PENDULUM	
203	3-669-595-00	WASHER (2), STOPPER	
204	3-736-172-02	RELEASE, LOCK, REEL	
205	X-3727-795-1	GEAR ASSY, RELAY	
206	3-736-074-01	RETAINER (SMALL), THRUST	
207	3-736-037-01	GEAR, REW	
208	X-3727-798-1	TABLE ASSY, REEL (T)	
209	3-738-212-21	RETAINER, THRUST, REEL TABLE	
210	X-3733-335-1	BRAKE ASSY (AT), T SOFT	
211	3-736-105-01	ARM, REV BRAKE	
212	3-736-143-01	GEAR, RVS CAM	
213	X-3942-218-1	ARM ASSY, RVS	
214	3-736-740-01	NUT (M2X0.25), NYLON	
215	3-736-116-01	GEAR, COMMUNICATION	
216	X-3727-770-1	PINCH ROLLER BLOCK ASSY	
218	3-736-136-01	CAM, ELEVATOR	
219	3-943-700-01	GEAR (LO), PRESS CAM	
220	3-942-828-01	OPENNER, LID	
221	3-738-250-01	SCREW, AC ADJUSTMENT	
222	3-736-025-01	SPRING (REV BRAKE), TENSION	
223	3-736-024-01	SPRING, TENSION	
224	3-736-020-11	SPRING, COMPRESSION	
227	3-739-621-01	SPRING, COMPRESSION	
228	3-736-069-01	RETAINER, SPRING	
229	3-942-829-01	SPRING (2)(ATOM), GROUND, FL	

5-6. MECHANISM CHASSIS ASSEMBLY (2)



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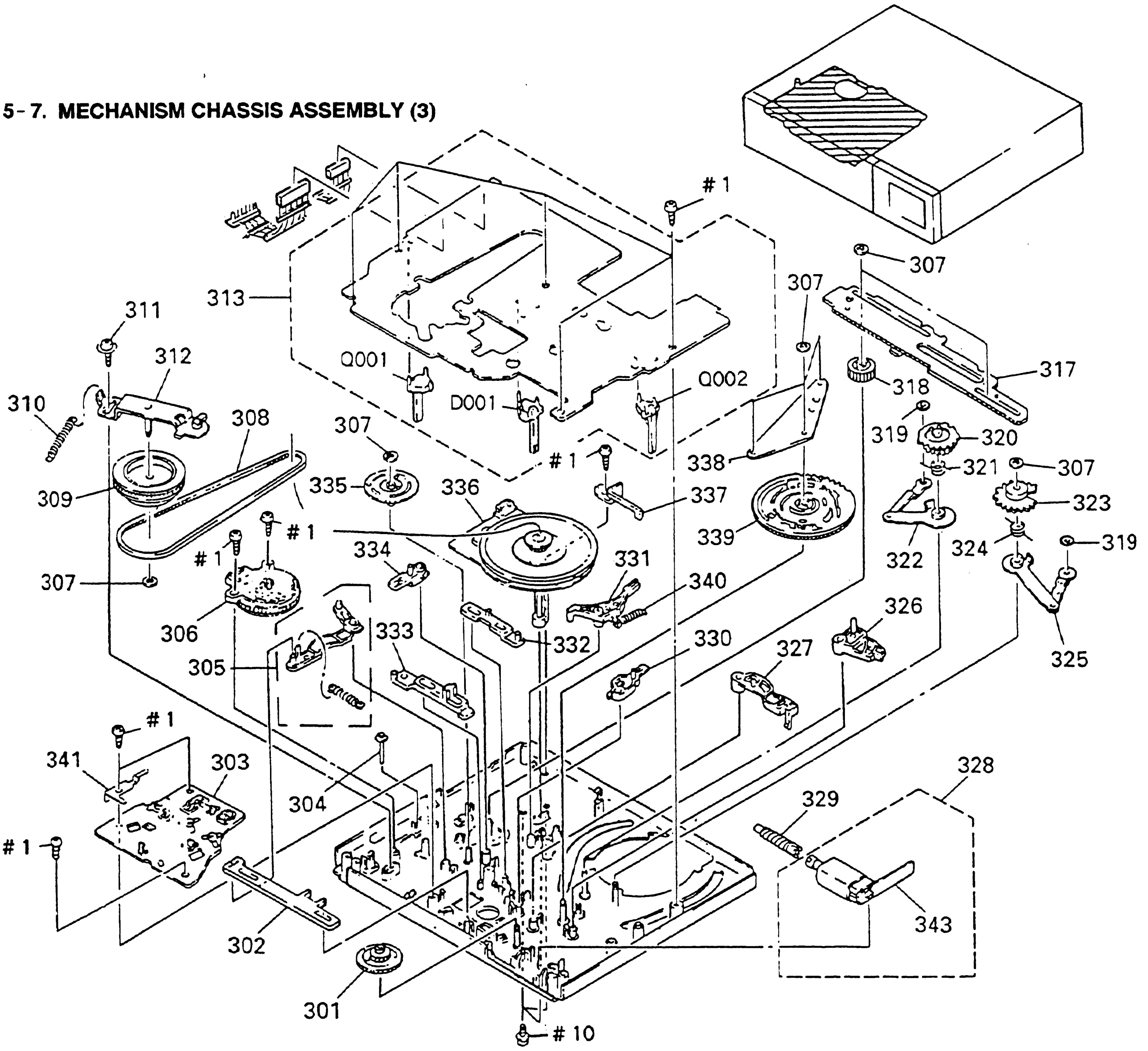
Ref. No.	Part No.	Description	Remarks
251	A-6759-483-A	TAKE-UP BLOCK ASSY (AT), S	
252	3-736-075-01	BRAKE, S SOFT	
253	3-738-212-21	RETAINER, THRUST, REEL TABLE	
254	X-3941-194-1	TABLE ASSY, REEL, S	
255	3-736-151-11	ARM (POM), TENSION REGULATOR	
256	X-3727-797-1	BAND ASSY, TENSION REGULATOR	
257	X-3727-786-1	SHUTTLE (LEFT) ASSY	
258	X-3733-301-1	ROLLER ASSY, GUIDE	
259	X-3727-767-1	BASE ASSY, STABILIZER	
260	1-543-647-11	HEAD, FE	
261	3-736-082-01	RETAINER, TS THRUST	
262	3-741-925-01	RING, RETAINING	
263	X-3727-771-1	STABLILIZER ASSY, TAPE	
266	3-942-866-01	NUT (M3) (3X0.5), NYLON	
267	A-6761-129-A	HEAD BLOCK ASSY, ACE	
268	3-944-833-01	SPRING, TENSION	
269	3-736-047-01	SPRING (S SOFT), TENSION	
270	X-3729-926-1	BRAKE ASSY (2), T	
271	3-738-220-01	SPRING (MAIN BRAKE 2), TENSION	
272	X-3733-336-2	BRAKE ASSY (2) (AT), S	
273	3-738-221-01	SPRING (MAIN BRAKE 1), TENSION	
274	X-3727-791-2	DRUM (BASE) ASSY	
275	3-733-389-11	SPRING, TENSION	
276	A-6747-267-A	ARM BLOCK ASSY (S), C ROLLER	
277	3-944-033-01	FLANGE, 7 GUIDE	
278	3-736-730-01	SLEEVE, #7 GUIDE	
279	3-749-099-01	SPRING (#7 GUIDE), COMPRESSION	
280	X-3727-787-1	SHUTTLE (RIGHT) ASSY	
281	X-3727-788-1	ROLLER ASSY, GUIDE, #2	
282	3-736-745-01	SPRING	
283	3-738-284-01	SPRING, TENSION	
284	X-3733-304-1	GROUND ASSY, SHAFT	
285	3-736-073-01	SLIDER, POLYETHYLENE	
286	3-739-621-01	SPRING, COMPRESSION	
287	1-550-785-11	DRUM ASSY (DZH-52AR)	
288	3-942-867-01	NUT, AC HEIGHT ADJUSTMENT	
289	X-3743-517-1	LEVER (S), RELEASE, C ROLLER	
290	1-550-536-11	DRUM ASSY, ROTARY UPPER (DZR-17)	

5-7. MECHANISM CHASSIS ASSEMBLY (3)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Ref. No.	Part No.	Description	Remarks
301	3-736-015-01	WHEEL (CAM), WORM	
302	3-736-158-01	PLATE, SLIDE, PENDULUM	
303	A-6739-084-A	CHASSIS BLOCK ASSY, SUB	
304	3-736-091-01	PIN, SWITCH	
305	X-3729-924-1	ARM, PENDULUM FUNCTION	
306	1-692-062-11	SWITCH, ROTARY	
307	3-669-595-00	WASHER (2), STOPPER	
308	3-736-013-01	BELT, TIMING	
309	X-3727-782-1	PULLEY ASSY	
310	3-736-089-01	SPRING, TENSION	
311	3-733-386-01	SCREW (3X8), WASHER	
312	X-3727-761-1	ARM ASSY, ADJUSTMENT	
* 313	A-6754-435-A	MD-58 BOARD, COMPLETE (B)	
* 313	A-6754-449-A	MD-56 BOARD, COMPLETE (AEP,NC,VC)	
317	3-736-177-01	PLATE, SLIDE, MODE	
318	3-733-394-01	GEAR, RVS RELAY	
319	3-736-073-01	SLIDER, POLYETHYLENE	
320	3-736-148-01	GEAR (RIGHT), THREADING	
321	3-736-092-01	SPRING (RIGHT), TORSION	
322	X-3727-777-1	ARM (RIGHT) ASSY, THREADING	
323	3-736-147-01	GEAR (LEFT), THREADING	
324	3-736-040-01	SPRING (LEFT), TORSION	
325	X-3727-778-1	ARM (LEFT) ASSY, THREADING	
326	3-736-142-01	ARM, TENSION REGULATOR FUNCTION	
327	3-736-140-01	ARM, S TAKE-UP	
328	X-3733-302-1	MOTOR ASSY, CAM	
329	3-733-395-01	GEAR (CAM), WORM	
330	3-733-397-01	ARM, BRAKE FUNCTION	
331	X-3733-338-1	BRAKE ASSY (AT), CAP	
332	3-733-398-01	PLATE, SLIDE, BRAKE	
333	3-736-103-01	PLATE, SLIDE, LIMITER	
334	3-736-016-01	ARM, LIMITER FUNCTION	
335	3-736-170-01	GEAR, RKB CAM	
336	8-835-489-01	MOTOR, DC U-26K	
337	3-736-744-01	RETAINER, ROTOR	
338	3-733-396-01	HOLDER, CAM GEAR	
339	3-736-176-01	GEAR, CAM	
340	3-738-237-01	SPRING (CAP BRAKE), TENSION	
341	3-741-950-01	SPRING (AT), LEAF, SC GROUND	
* 343	1-633-460-11	CA-41 BOARD	
D001	8-719-985-00	DIODE GL451VS1	
Q001	8-729-926-31	TRANSISTOR PT483F1S	
Q002	8-729-926-31	TRANSISTOR PT483F1S	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spéci-fie.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- −XX, −X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL : metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- CAPACITORS :
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description	Remarks
*	A-6756-633-A	CG-15 BOARD, COMPLETE (AEP,NC) ********************************	
*	A-6721-481-A	CG-15 BOARD, COMPLETE (B) **************************	
*	A-6721-489-A	CG-15 BOARD, COMPLETE (VC) ***************************	
			(Ref.No.6000 Series.)
	3-831-441-XX	CUSHION	
		< CAPACITOR >	
C601	1-163-036-00	CERAMIC CHIP 0.068uF 50V	
C602	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C603	1-163-229-11	CERAMIC CHIP 12PF 5% 50V	
C604	1-163-227-11	CERAMIC CHIP 10PF 5% 50V	
C605	1-124-589-11	ELECT 47uF 20% 16V	
C606	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C607	1-124-903-11	ELECT 1uF 20% 50V	
C608	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C609	1-124-443-00	ELECT 100uF 20% 10V	
C610	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C611	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C614	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C615	1-163-006-11	CERAMIC CHIP 560PF 10% 50V	
C616	1-126-301-11	ELECT 1uF 20% 50V	
C617	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C618	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C619	1-163-127-00	CERAMIC CHIP 270PF 5% 50V	
C620	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C621	1-124-126-00	ELECT 47uF 20% 10V	
C622	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C623	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C624	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C625	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	(B,VC)
C626	1-126-157-11	ELECT 10uF 20% 16V	
C627	1-130-487-00	MYLAR 0.022uF 5% 50V	
C629	1-163-035-00	CERAMIC CHIP 0.047uF 50V	

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
* CN601	1-563-312-11	CONNECTOR, BOARD TO BOARD 12P	
CN602	1-563-311-11	CONNECTOR, BOARD TO BOARD 10P	
		< VARIABLE CAPACITOR >	
CV601	1-141-245-00	CAP, TRIMMER 30PF	
		< IC >	
IC601	8-759-078-01	IC uPD78013GC-VSX1760	
IC602	8-759-078-02	IC M50555-VSX1760	
IC603	8-759-996-03	IC LVA519S	
		< JUMPER RESISTOR >	
JR601	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR603	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR604	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR606	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< COIL >	
L601	1-410-521-11	INDUCTOR 100uH	
L602	1-410-521-11	INDUCTOR 100uH	
L603	1-412-470-21	INDUCTOR 22uH	
L604	1-410-515-11	INDUCTOR 33uH	(B,VC)
L605	1-410-509-11	INDUCTOR 10uH	
L606	1-410-521-11	INDUCTOR 100uH	
L607	1-410-521-11	INDUCTOR 100uH	
L608	1-410-316-11	INDUCTOR 1uH	
L609	1-410-521-11	INDUCTOR 100uH	
L610	1-410-521-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q603	8-729-422-28	TRANSISTOR 2SD601A-R	
Q604	8-729-422-37	TRANSISTOR 2SB709A-R	
Q605	8-729-901-06	TRANSISTOR DTA144EK	(AEP,NC,VC)
Q605	8-729-424-18	TRANSISTOR UN2113	(B)
Q606	8-729-422-28	TRANSISTOR 2SD601A-R	

Ref. No.	Part No.	Description	Remarks
Q607	8-729-901-01	TRANSISTOR DTC144EK (AEP,NC,VC)	
Q607	8-729-421-19	TRANSISTOR UN2213 (B)	
Q608	8-729-422-28	TRANSISTOR 2SD601A-R (B,VC)	
Q609	8-729-421-19	TRANSISTOR UN2213 (B)	
Q609	8-729-901-01	TRANSISTOR DTC144EK (VC)	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R601	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R602	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R603	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R604	1-216-097-00	METAL CHIP 100K 5% 1/10W	
⚠R605	1-249-413-11	CARBON 470 5% 1/4W	F
R606	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R607	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
⚠R608	1-249-422-11	CARBON 2.7K 5% 1/4W	F
R609	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R610	1-216-041-00	METAL CHIP 470 5% 1/10W	
R611	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R612	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R613	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R614	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R615	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R616	1-216-041-00	METAL CHIP 470 5% 1/10W	
R617	1-216-043-00	METAL CHIP 560 5% 1/10W	
R618	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R619	1-216-041-00	METAL CHIP 470 5% 1/10W	
R620	1-216-295-00	METAL CHIP 0 5% 1/10W	
R623	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R624	1-216-043-00	METAL CHIP 560 5% 1/10W	
R625	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R629	1-216-043-00	METAL CHIP 560 5% 1/10W	
R630	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R635	1-249-441-11	CARBON 100K 5% 1/4W	
R640	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R641	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R642	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R643	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R644	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R645	1-216-073-00	METAL CHIP 10K 5% 1/10W (B,VC)	
R647	1-216-073-00	METAL CHIP 10K 5% 1/10W (B,VC)	
R648	1-216-041-00	METAL CHIP 470 5% 1/10W	
R649	1-216-041-00	METAL CHIP 470 5% 1/10W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remarks
RV601	1-241-079-11	RES, ADJ, CARBON 4.7K (AEP,NC,VC)	
RV601	1-241-629-11	RES, ADJ, CARBON 4.7K (B)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remarks
X601	1-579-125-11	VIBRATOR, CERAMIC 8MHz (AEP,NC,VC)	
X601	1-577-157-11	VIBRATOR, CERAMIC 8MHz (B)	
X602	1-577-289-11	VIBRATOR, CRYSTAL 17.7MHZ	

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* A-6755-631-A CN-62 BOARD, COMPLETE (AEP,NC)

****

* A-6755-568-A CN-62 BOARD, COMPLETE (B)

****

* A-6755-621-A CN-62 BOARD, COMPLETE (VC)

****

(Ref.No.4000 Series.)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C101	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C102	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C103	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C104	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C105	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C106	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C107	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C108	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C801	1-124-589-11	ELECT 47uF 20% 16V (B,VC)	
C802	1-163-031-11	CERAMIC CHIP 0.01uF 50V (B,VC)	
C803	1-163-031-11	CERAMIC CHIP 0.01uF 50V (B,VC)	
C804	1-163-031-11	CERAMIC CHIP 0.01uF 50V (B,VC)	
C805	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C806	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C807	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C808	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C809	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C810	1-126-157-11	ELECT 10uF 20% 16V (B,VC)	
C812	1-124-589-11	ELECT 47uF 20% 16V (B,VC)	
C813	1-124-589-11	ELECT 47uF 20% 16V (B,VC)	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
CN102	1-506-487-11	PIN, CONNECTOR 8P (AEP,NC,VC)	
* CN102	1-573-735-41	PIN, CONNECTOR 8P (B)	
CN103	1-691-277-11	CONNECTOR, BOARD TO BOARD 13P	

< JACK >

Ref. No.	Part No.	Description	Remarks
CNJ101	1-561-534-41	SOCKET 21P (EURO-AV(LINE3))	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

< DIODE >

Ref. No.	Part No.	Description	Remarks
D101	8-719-108-12	DIODE RD9.1E-W	
D102	8-719-108-12	DIODE RD9.1E-W	
D103	8-719-108-12	DIODE RD9.1E-W	
D104	8-719-108-12	DIODE RD9.1E-W	
D105	8-719-109-97	DIODE RD6.8ES-B2	
D106	8-719-109-97	DIODE RD6.8ES-B2	
D107	8-719-108-12	DIODE RD9.1E-W	
D108	8-719-110-36	DIODE RD13ES-B2	
D109	8-719-109-97	DIODE RD6.8ES-B2	

< IC >

Ref. No.	Part No.	Description	Remarks
IC801	8-759-300-71	IC TC4053BF (B,VC)	
IC802	8-759-909-71	IC BA4558F (B,VC)	

< JUMPER RESISTOR >

Ref. No.	Part No.	Description	Remarks
JR801	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR802	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR803	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR804	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR805	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR806	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR807	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR808	1-216-295-00	METAL CHIP 0 5% 1/10W	

< COIL >

Ref. No.	Part No.	Description	Remarks
L101	1-410-336-11	INDUCTOR 220uH	
L102	1-410-336-11	INDUCTOR 220uH	
L103	1-410-336-11	INDUCTOR 220uH	
L104	1-410-336-11	INDUCTOR 220uH	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R101	1-216-041-00	METAL CHIP 470 5% 1/10W	
R102	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R103	1-216-041-00	METAL CHIP 470 5% 1/10W	
R104	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R105	1-216-022-00	METAL CHIP 75 5% 1/10W	
R106	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R107	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R801	1-216-097-00	METAL CHIP 100K 5% 1/10W (B,VC)	
R802	1-216-097-00	METAL CHIP 100K 5% 1/10W (B,VC)	
R803	1-216-097-00	METAL CHIP 100K 5% 1/10W (B,VC)	
R804	1-216-097-00	METAL CHIP 100K 5% 1/10W (B,VC)	
R805	1-216-113-00	METAL CHIP 470K 5% 1/10W (B,VC)	
R806	1-216-113-00	METAL CHIP 470K 5% 1/10W (B,VC)	
R807	1-216-113-00	METAL CHIP 470K 5% 1/10W (B,VC)	
R808	1-216-113-00	METAL CHIP 470K 5% 1/10W (B,VC)	
R809	1-216-049-00	METAL CHIP 1K 5% 1/10W (B,VC)	
R810	1-216-049-00	METAL CHIP 1K 5% 1/10W (B,VC)	
R811	1-216-081-00	METAL CHIP 22K 5% 1/10W (B,VC)	
R812	1-216-081-00	METAL CHIP 22K 5% 1/10W (B,VC)	
R815	1-216-025-00	METAL CHIP 100 5% 1/10W (B,VC)	
R816	1-216-025-00	METAL CHIP 100 5% 1/10W (B,VC)	

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* A-6721-491-A HF-26 BOARD, COMPLETE (AEP,NC,VC)

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* A-6721-475-A HF-26 BOARD, COMPLETE (B)

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(Ref.No.17000 Series.)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C201	1-124-443-00	ELECT 100uF 20% 10V	
C202	1-124-443-00	ELECT 100uF 20% 10V	
C204	1-126-101-11	ELECT 100uF 20% 16V	
C205	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C206	1-124-925-11	ELECT 2.2uF 20% 100V	
C207	1-124-126-00	ELECT 47uF 20% 10V	
C208	1-124-927-11	ELECT 4.7uF 20% 100V	
C209	1-124-907-11	ELECT 10uF 20% 50V	
C212	1-124-126-00	ELECT 47uF 20% 10V	
C213	1-124-126-00	ELECT 47uF 20% 10V	
C214	1-124-126-00	ELECT 47uF 20% 10V	
C215	1-124-907-11	ELECT 10uF 20% 50V	
C216	1-124-927-11	ELECT 4.7uF 20% 100V	
C217	1-124-925-11	ELECT 2.2uF 20% 100V	
C218	1-124-925-11	ELECT 2.2uF 20% 100V	
C219	1-124-907-11	ELECT 10uF 20% 50V	
C220	1-124-907-11	ELECT 10uF 20% 50V	
C221	1-130-483-00	MYLAR 0.01uF 5% 50V	
C222	1-124-927-11	ELECT 4.7uF 20% 100V	
C223	1-126-176-11	ELECT 220uF 20% 10V	
C224	1-124-925-11	ELECT 2.2uF 20% 100V	
C225	1-130-487-00	MYLAR 0.022uF 5% 50V	
C226	1-126-096-11	ELECT 10uF 20% 35V	
C227	1-124-234-00	ELECT 22uF 20% 16V	
C228	1-130-473-00	MYLAR 0.0015uF 5% 50V	
C229	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C230	1-130-475-00	MYLAR 0.0022uF 5% 50V	
C231	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C232	1-124-443-00	ELECT 100uF 20% 10V	
C233	1-130-477-00	MYLAR 0.0033uF 5% 50V	

Ref. No.	Part No.	Description				Remarks
C234	1-124-903-11	ELECT	1uF	20%	50V	
C235	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C236	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C237	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C239	1-130-475-00	MYLAR	0.0022uF	5%	50V	
C240	1-130-475-00	MYLAR	0.0022uF	5%	50V	
C241	1-130-473-00	MYLAR	0.0015uF	5%	50V	
C242	1-124-234-00	ELECT	22uF	20%	16V	
C244	1-126-096-11	ELECT	10uF	20%	35V	
C245	1-130-487-00	MYLAR	0.022uF	5%	50V	
C246	1-124-925-11	ELECT	2.2uF	20%	100V	
C247	1-126-176-11	ELECT	220uF	20%	10V	
C248	1-124-927-11	ELECT	4.7uF	20%	100V	
C249	1-130-483-00	MYLAR	0.01uF	5%	50V	
C250	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C251	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C255	1-163-237-11	CERAMIC CHIP	27PF	5%	50V	
		< CONNECTOR >				
CN201	1-573-834-11	CONNECTOR, BOARD TO BOARD 20P				
CN202	1-573-828-11	CONNECTOR, BOARD TO BOARD 14P				
		< DIODE >				
D201	8-719-104-34	DIODE	1S2836			
		< IC >				
IC201	8-759-057-63	IC	AN3937NFBP			
IC202	8-759-946-44	IC	TK15120M			
IC203	8-759-924-46	IC	BA4560F			
IC204	8-759-946-44	IC	TK15120M			
IC205	8-759-938-15	IC	BA178M05			
		< JUMPER RESISTOR >				
JR203	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR207	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR208	1-216-295-00	METAL CHIP	0	5%	1/10W	
JR209	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR211	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR212	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR213	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR215	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR217	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR218	1-216-296-00	METAL CHIP	0	5%	1/8W	

Ref. No.	Part No.	Description				Remarks
JR219	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR221	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR222	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR224	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR225	1-216-296-00	METAL CHIP	0	5%	1/8W	
JR226	1-216-296-00	METAL CHIP	0	5%	1/8W	
		< COIL >				
L202	1-408-424-00	INDUCTOR	180uH			
		< RESISTOR >				
⚠R203	1-249-408-11	CARBON	180	5%	1/4W	F
⚠R205	1-249-408-11	CARBON	180	5%	1/4W	F
R209	1-247-891-00	CARBON	330K	5%	1/4W	
R212	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R213	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R215	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R216	1-249-417-11	CARBON	1K	5%	1/4W	F
R218	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R220	1-216-223-00	METAL GLAZE	11K	5%	1/8W	
R221	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R222	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R223	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R224	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R225	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R226	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R227	1-249-417-11	CARBON	1K	5%	1/4W	F
R231	1-216-679-11	METAL CHIP	15K	0.5%	1/10W	
R232	1-216-677-11	METAL CHIP	12K	0.5%	1/10W	
R233	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R234	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R235	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV201	1-241-077-11	RES, ADJ, CARBON	2.2K			
RV202	1-241-764-11	RES, ADJ, CERMET	10K			
RV204	1-241-080-11	RES, ADJ, CARBON	10K			
RV205	1-241-763-11	RES, ADJ, CERMET	4.7K			
RV206	1-241-077-11	RES, ADJ, CARBON	2.2K			
RV207	1-241-764-11	RES, ADJ, CERMET	10K			
RV208	1-241-080-11	RES, ADJ, CARBON	10K			
RV209	1-241-763-11	RES, ADJ, CERMET	4.7K			

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Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MA-140

Ref. No.	Part No.	Description				Remarks
*	A-6756-632-A	MA-140 BOARD, COMPLETE (AEP)				
		******************************				
*	A-6756-816-A	MA-140 BOARD, COMPLETE (B)				
		****************************				
*	A-6756-619-A	MA-140 BOARD, COMPLETE (NC)				
		*****************************				
*	A-6756-624-A	MA-140 BOARD, COMPLETE (VC)				
		*****************************				
		(Ref.No.8000 Series.)				
	1-555-110-00	CABLE, PIN				
	3-831-441-XX	CUSHION, SPEAKER				
		< CAPACITOR >				
C107	1-124-443-00	ELECT	100uF	20%	10V	
C108	1-124-471-00	ELECT	1000uF	20%	6.3V	
C110	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C111	1-124-126-00	ELECT	47uF	20%	10V	
C114	1-124-471-00	ELECT	1000uF	20%	6.3V	
C116	1-124-477-11	ELECT	47uF	20%	25V	
C117	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C201	1-124-907-11	ELECT	10uF	20%	50V	
C202	1-124-907-11	ELECT	10uF	20%	50V	
C203	1-124-907-11	ELECT	10uF	20%	50V	
C204	1-124-907-11	ELECT	10uF	20%	50V	
C205	1-124-927-11	ELECT	4.7uF	20%	100V	
C206	1-124-927-11	ELECT	4.7uF	20%	100V	
C207	1-124-907-11	ELECT	10uF	20%	50V	
C209	1-126-157-11	ELECT	10uF	20%	16V	
C210	1-124-907-11	ELECT	10uF	20%	50V	
C211	1-162-284-31	CERAMIC	150PF	10%	50V	
C212	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C215	1-124-907-11	ELECT	10uF	20%	50V	
C216	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C217	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C220	1-126-157-11	ELECT	10uF	20%	16V	
C225	1-124-907-11	ELECT	10uF	20%	50V	
C227	1-124-907-11	ELECT	10uF	20%	50V	
C251	1-124-907-11	ELECT	10uF	20%	50V	
C252	1-124-907-11	ELECT	10uF	20%	50V	
C253	1-124-907-11	ELECT	10uF	20%	50V	
C254	1-124-907-11	ELECT	10uF	20%	50V	
C255	1-126-163-11	ELECT	4.7uF	20%	50V	
C256	1-126-163-11	ELECT	4.7uF	20%	50V	
C257	1-124-907-11	ELECT	10uF	20%	50V	
C259	1-126-157-11	ELECT	10uF	20%	16V	
C260	1-124-907-11	ELECT	10uF	20%	50V	
C261	1-162-284-31	CERAMIC	150PF	10%	50V	
C262	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C265	1-126-157-11	ELECT	10uF	20%	16V	
C266	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C267	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C270	1-126-157-11	ELECT	10uF	20%	16V	
C275	1-124-907-11	ELECT	10uF	20%	50V	
C277	1-164-096-11	CERAMIC	0.01uF		50V	
C281	1-124-907-11	ELECT	10uF	20%	50V	
C282	1-126-157-11	ELECT	10uF	20%	16V	
C283	1-164-096-11	CERAMIC	0.01uF		50V	
C285	1-124-907-11	ELECT	10uF	20%	50V	
C286	1-124-907-11	ELECT	10uF	20%	50V	
C287	1-124-499-11	ELECT, NONPOLAR R	1uF	20%	50V	
C289	1-124-907-11	ELECT	10uF	20%	50V	
C290	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C291	1-124-907-11	ELECT	10uF	20%	50V	
C298	1-124-477-11	ELECT	47uF	20%	25V	(AEP, NC, VC)
C301	1-124-925-11	ELECT	2.2uF	20%	100V	
C302	1-124-907-11	ELECT	10uF	20%	50V	
C303	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C400	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C401	1-164-052-11	CERAMIC	18PF	5%	50V	
C402	1-164-052-11	CERAMIC	18PF	5%	50V	
C403	1-164-096-11	CERAMIC	0.01uF		50V	
C404	1-164-096-11	CERAMIC	0.01uF		50V	
C405	1-164-096-11	CERAMIC	0.01uF		50V	
C406	1-126-245-11	ELECT	330uF	20%	6.3V	
C407	1-136-161-00	MYLAR	0.047uF	10%	50V	
C408	1-130-485-00	MYLAR	0.015uF	5%	50V	
C409	1-124-925-11	ELECT	2.2uF	20%	100V	
C410	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C411	1-124-598-11	ELECT	22uF	20%	25V	
C412	1-126-101-11	ELECT	100uF	20%	16V	
C413	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C414	1-124-472-11	ELECT	470uF	20%	10V	
C415	1-124-126-00	ELECT	47uF	20%	10V	
C416	1-164-159-11	CERAMIC	0.1uF		50V	
C417	1-126-177-11	ELECT	100uF	20%	10V	
C418	1-164-085-11	CERAMIC	0.001uF	10%	50V	
C419	1-162-835-11	CERAMIC	0.0047uF	10%	16V	
C420	1-162-847-11	CERAMIC	0.047uF	10%	16V	
C421	1-124-477-11	ELECT	47uF	20%	25V	
C422	1-162-849-11	CERAMIC	0.068uF	10%	16V	
C423	1-126-233-11	ELECT	22uF	20%	50V	
C424	1-162-851-11	CERAMIC	0.1uF	10%	16V	
C425	1-124-925-11	ELECT	2.2uF	20%	100V	

Ref. No.	Part No.	Description	Remarks
C426	1-162-849-11	CERAMIC 0.068uF 10% 16V	
C427	1-124-455-00	ELECT 100uF 20% 16V	
C429	1-164-098-11	CERAMIC 0.047uF 12V	
C501	1-126-160-11	ELECT 1uF 20% 50V	(NC)
C502	1-124-903-11	ELECT 1uF 20% 50V	(AEP, NC, VC)
C503	1-126-157-11	ELECT 10uF 20% 16V	(AEP, NC, VC)
C521	1-126-157-11	ELECT 10uF 20% 16V	
C522	1-136-159-00	MYLAR 0.033uF 10% 50V	(AEP, NC, VC)
C531	1-124-927-11	ELECT 4.7uF 20% 100V	
C532	1-162-306-11	CERAMIC 0.01uF 20% 16V	
C533	1-126-233-11	ELECT 22uF 20% 50V	
C534	1-124-126-00	ELECT 47uF 20% 10V	
C535	1-126-103-11	ELECT 470uF 20% 16V	
C536	1-126-233-11	ELECT 22uF 20% 50V	
C537	1-124-126-00	ELECT 47uF 20% 10V	(AEP, B, VC)
C538	1-124-477-11	ELECT 47uF 20% 25V	
C539	1-124-477-11	ELECT 47uF 20% 25V	(AEP, NC, VC)
C540	1-130-483-00	MYLAR 0.01uF 5% 50V	(AEP, NC, VC)
C546	1-124-477-11	ELECT 47uF 20% 25V	(NC)
C547	1-124-126-00	ELECT 47uF 20% 10V	(NC)
C548	1-162-851-11	CERAMIC 0.1uF 10% 16V	(NC)
C551	1-126-160-11	ELECT 1uF 20% 50V	(NC)
C552	1-124-903-11	ELECT 1uF 20% 50V	(AEP, NC, VC)
C553	1-124-907-11	ELECT 10uF 20% 50V	(B)
C555	1-124-907-11	ELECT 10uF 20% 50V	(B)
C571	1-162-212-31	CERAMIC 36PF 5% 50V	
C572	1-162-219-31	CERAMIC 68PF 5% 50V	(AEP, VC)
C572	1-162-205-31	CERAMIC 18PF 5% 50V	(B, NC)
C574	1-162-847-11	CERAMIC 0.047uF 10% 16V	
C575	1-162-306-11	CERAMIC 0.01uF 20% 16V	(NC)
C585	1-126-160-11	ELECT 1uF 20% 50V	(NC)
C590	1-124-234-00	ELECT 22uF 20% 16V	(AEP, NC, VC)
C701	1-126-160-11	ELECT 1uF 20% 50V	
C702	1-124-126-00	ELECT 47uF 20% 10V	
C703	1-124-589-11	ELECT 47uF 20% 16V	
C704	1-126-301-11	ELECT 1uF 20% 50V	
C705	1-130-488-00	MYLAR 0.027uF 5% 50V	
C706	1-130-492-11	MYLAR 0.056uF 5% 50V	
C707	1-126-163-11	ELECT 4.7uF 20% 50V	
C708	1-124-589-11	ELECT 47uF 20% 16V	
C709	1-124-126-00	ELECT 47uF 20% 10V	
C710	1-164-083-11	CERAMIC 680PF 10% 50V	
C711	1-164-092-11	CERAMIC 0.0033uF 10% 25V	
C712	1-124-465-00	ELECT 0.47uF 20% 50V	
C713	1-124-903-11	ELECT 1uF 20% 50V	
C714	1-130-483-00	MYLAR 0.01uF 5% 50V	
C715	1-124-126-00	ELECT 47uF 20% 10V	
C716	1-164-078-11	CERAMIC 270PF 10% 50V	
C717	1-124-903-11	ELECT 1uF 20% 50V	
C718	1-124-598-11	ELECT 22uF 20% 25V	
C719	1-164-085-11	CERAMIC 0.001uF 10% 50V	
C720	1-164-086-11	CERAMIC 0.0012uF 10% 50V	
C721	1-164-077-11	CERAMIC 220PF 10% 50V	
C724	1-137-612-11	FILM 0.0068uF 5% 100V	
C725	1-164-087-11	CERAMIC 0.0015uF 10% 50V	
C726	1-164-095-11	CERAMIC 0.01uF 10% 16V	
C730	1-164-096-11	CERAMIC 0.01uF 50V	
C740	1-126-320-11	ELECT, NONPOLAR R 10uF 20% 16V	(B, VC)
C750	1-124-907-11	ELECT 10uF 20% 50V	(B, VC)
C760	1-164-096-11	CERAMIC 0.01uF 50V	(B, VC)
C905	1-164-159-11	CERAMIC 0.1uF 50V	
C906	1-164-159-11	CERAMIC 0.1uF 50V	
C910	1-124-584-00	ELECT 100uF 20% 10V	(AEP, NC, VC)
		< CONNECTOR >	
* CN713	1-508-797-00	PIN, CONNECTOR 4P	
* CN901	1-560-894-00	PIN, CONNECTOR 6P	
CN902	1-506-473-11	PIN, CONNECTOR 8P	
* CN903	1-568-789-11	PIN, CONNECTOR 12P	
CN904	1-691-702-11	CONNECTOR, BOARD TO BOARD 20P	
CN905	1-691-703-11	CONNECTOR, BOARD TO BOARD 24P	
CN907	1-573-846-11	CONNECTOR, BOARD TO BOARD 14P	
CN908	1-573-852-11	CONNECTOR, BOARD TO BOARD 20P	
CN909	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
CN910	1-506-470-11	PIN, CONNECTOR 5P	(AEP, NC, VC)
* CN910	1-573-128-11	PIN, CONNECTOR 5P	(B)
CN911	1-569-337-11	CONNECTOR, BOARD TO BOARD 11P	
* CN912	1-508-742-00	PIN, CONNECTOR 3P	
CN913	1-506-473-11	PIN, CONNECTOR 8P	(AEP, NC, VC)
* CN913	1-573-131-41	PIN, CONNECTOR 8P	(B)
* CN914	1-568-789-11	PIN, CONNECTOR 12P	
* CN915	1-568-783-31	PIN, CONNECTOR 6P	(AEP, NC, VC)
* CN915	1-573-129-31	PIN, CONNECTOR 6P	(B)
CN917	1-563-590-11	CONNECTOR, FLEXIBLE 13P	(B, VC)
CN918	1-506-473-11	PIN, CONNECTOR 8P	
* CN919	1-568-788-21	PIN, CONNECTOR 11P	(AEP, NC, VC)
* CN919	1-573-134-41	PIN, CONNECTOR 11P	(B)
CN920	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN921	1-573-842-11	CONNECTOR, BOARD TO BOARD 10P	(VC)
CN922	1-566-128-11	CONNECTOR, BOARD TO BOARD 10P	
* CN923	1-506-775-11	CONNECTOR, BOARD TO BOARD 12P	
CN926	1-506-473-11	PIN, CONNECTOR 8P	
		< JACK >	
CNJ901	1-565-351-41	JACK, PIN 3P (LINE OUT)	
CNJ902	1-568-016-11	SOCKET 21P (EURO-AV(LINE1))	(AEP, NC, VC)
CNJ902	1-561-534-00	SOCKET 21P (EURO-AV(LINE1))	(B)
CNJ903	1-507-562-00	JACK (OUT)	
CNJ904	1-507-562-00	JACK (CONTROL S)	

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Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D301	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D301	8-719-911-19	DIODE 1SS119 (B)	
D302	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D302	8-719-911-19	DIODE 1SS119 (B)	
D303	8-719-109-97	DIODE RD6.8ES-B2	
D304	8-719-109-97	DIODE RD6.8ES-B2	
D400	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D400	8-719-911-19	DIODE 1SS119 (B)	
D401	8-719-109-93	DIODE RD6.2ES-B2	
D402	8-719-109-93	DIODE RD6.2ES-B2	
D403	8-719-982-11	DIODE MTZJ-T-77-4.3B (AEP, NC, VC)	
D403	8-719-109-75	DIODE RD4.3ES-B2 (B)	
D404	8-719-010-34	DIODE UZ-4.7BSC (AEP, NC, VC)	
D404	8-719-109-81	DIODE RD4.7ES-B2 (B)	
D405	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D405	8-719-911-19	DIODE 1SS119 (B)	
D406	8-719-974-59	DIODE 1SR139-100 (AEP, NC, VC)	
D406	8-719-200-82	DIODE 11ES2 (B)	
D450	8-719-911-19	DIODE 1SS119 (B)	
D450	8-719-987-06	DIODE WG713A (VC)	
D451	8-719-911-19	DIODE 1SS119 (B)	
D451	8-719-987-06	DIODE WG713A (VC)	
D452	8-719-911-19	DIODE 1SS119 (B)	
D452	8-719-987-06	DIODE WG713A (VC)	
D502	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D502	8-719-911-19	DIODE 1SS119 (B)	
D505	8-719-982-26	DIODE MTZJ-33B (AEP, NC, VC)	
D505	8-719-110-78	DIODE RD33ES-B2 (B)	
D506	8-719-974-59	DIODE 1SR139-100 (NC)	
D901	8-719-974-59	DIODE 1SR139-100 (AEP, NC, VC)	
D901	8-719-200-82	DIODE 11ES2 (B)	
D902	8-719-108-12	DIODE RD9.1E-W	
D903	8-719-109-97	DIODE RD6.8ES-B2	
D904	8-719-109-97	DIODE RD6.8ES-B2	
D905	8-719-921-88	DIODE MTZJ-13B (AEP, NC, VC)	
D905	8-719-110-36	DIODE RD13ES-B2 (B)	
D906	8-719-109-97	DIODE RD6.8ES-B2	
D907	8-719-108-12	DIODE RD9.1E-W	
D910	8-719-108-12	DIODE RD9.1E-W	
D911	8-719-108-12	DIODE RD9.1E-W	
D912	8-719-109-97	DIODE RD6.8ES-B2	
D913	8-719-108-12	DIODE RD9.1E-W	
D920	8-719-108-12	DIODE RD9.1E-W (AEP, NC, VC)	
D921	8-719-108-12	DIODE RD9.1E-W (AEP, NC, VC)	
D922	8-719-108-12	DIODE RD9.1E-W (AEP, NC, VC)	

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC201	8-759-520-50	IC BH7733S	
IC202	8-759-961-38	IC BA6138	
IC203	8-759-140-53	IC MC14053BCP	
IC204	8-759-945-58	IC RC4558P	
IC401	8-752-836-00	IC CXP80724-040Q	
IC402	8-759-246-14	IC TA8823N	
IC403	8-759-503-91	IC TL082ACP	
⚠IC404	8-759-983-45	IC BA6238A	
IC501	8-759-512-95	IC TDA8415 (AEP, NC, VC)	
IC502	8-759-602-48	IC M5201L (B)	
IC701	8-759-805-20	IC LA7297	
IC702	8-759-602-48	IC M5201L (B, VC)	
		< IF BLOCK >	
⚠IF501	1-466-539-21	IF BLOCK (IFZ-389ST) (AEP, VC)	
⚠IF501	1-466-540-11	IF BLOCK (IFZ-389FE) (B)	
⚠IF501	1-466-538-11	IF BLOCK (IFZ-389NC) (NC)	
		< COIL >	
L102	1-408-421-00	INDUCTOR 100uH	
L110	1-410-513-11	INDUCTOR 22uH	
L215	1-410-336-11	INDUCTOR 220uH	
L265	1-410-336-11	INDUCTOR 220uH	
L281	1-410-521-11	INDUCTOR 100uH	
L282	1-410-521-11	INDUCTOR 100uH	
L283	1-410-336-11	INDUCTOR 220uH	
L284	1-410-336-11	INDUCTOR 220uH	
L285	1-410-336-11	INDUCTOR 220uH	
L286	1-410-336-11	INDUCTOR 220uH	
L290	1-408-409-00	INDUCTOR 10uH	
L301	1-408-409-00	INDUCTOR 10uH	
L302	1-408-401-00	INDUCTOR 2.2uH	
L400	1-408-409-00	INDUCTOR 10uH	
L401	1-408-421-00	INDUCTOR 100uH	
L404	1-408-421-00	INDUCTOR 100uH	
L501	1-410-509-11	INDUCTOR 10uH	
L502	1-410-509-11	INDUCTOR 10uH	
L504	1-410-513-11	INDUCTOR 22uH	
L505	1-410-513-11	INDUCTOR 22uH	
L507	1-410-501-11	INDUCTOR 2.2uH	
L508	1-410-501-11	INDUCTOR 2.2uH	
L532	1-410-501-11	INDUCTOR 2.2uH	
L533	1-410-501-11	INDUCTOR 2.2uH	
L534	1-410-501-11	INDUCTOR 2.2uH	
L701	1-412-451-21	INDUCTOR 8.2mH	
L702	1-410-120-11	INDUCTOR 1.2mH	
L703	1-408-421-00	INDUCTOR 100uH	
L704	1-410-091-31	INDUCTOR 22mH	
L760	1-410-509-11	INDUCTOR 10uH (B, VC)	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
L902	1-410-501-11	INDUCTOR 2.2uH	
L903	1-410-501-11	INDUCTOR 2.2uH	
		< DECORDER BLOCK >	
NCM501	1-466-542-12	DECORDER BLOCK (NCA-389)	(NC)
		< TRANSISTOR >	
Q101	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q102	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q103	8-729-900-89	TRANSISTOR DTC144ES	
Q104	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q105	8-729-900-89	TRANSISTOR DTC144ES	
Q109	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q203	8-729-900-89	TRANSISTOR DTC144ES	
Q220	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q247	8-729-119-78	TRANSISTOR 2SC2785-HFE	(B,VC)
Q270	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q297	8-729-119-78	TRANSISTOR 2SC2785-HFE	(B,VC)
Q298	8-729-900-89	TRANSISTOR DTC144ES	
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-900-65	TRANSISTOR DTA144ES	
Q303	8-729-900-89	TRANSISTOR DTC144ES	
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q401	8-729-422-71	TRANSISTOR UN411L	
Q450	8-729-900-89	TRANSISTOR DTC144ES	(B,NC,VC)
Q501	8-729-111-55	TRANSISTOR 2SC1509	
Q502	8-729-303-37	TRANSISTOR 2SD655-E	
Q503	8-729-119-78	TRANSISTOR 2SC2785-HFE	(AEP,NC,VC)
Q505	8-729-423-42	TRANSISTOR 2SA1309A-R	
Q507	8-729-119-78	TRANSISTOR 2SC2785-HFE	(NC)
Q508	8-729-900-80	TRANSISTOR DTC114ES	(AEP,NC,VC)
Q509	8-729-900-89	TRANSISTOR DTC144ES	(VC)
Q701	8-729-140-96	TRANSISTOR KSC1008	
		< RESISTOR >	
R101	1-247-804-11	CARBON 75 5% 1/4W	
⚠R105	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R106	1-249-406-11	CARBON 120 5% 1/4W	F
⚠R107	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R108	1-249-403-11	CARBON 68 5% 1/4W	F
⚠R112	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R113	1-249-407-11	CARBON 150 5% 1/4W	F
⚠R114	1-249-403-11	CARBON 68 5% 1/4W	F
R132	1-249-426-11	CARBON 5.6K 5% 1/4W	
⚠R133	1-249-417-11	CARBON 1K 5% 1/4W	F

Ref. No.	Part No.	Description	Remarks
⚠R134	1-249-417-11	CARBON 1K 5% 1/4W	F
R201	1-249-431-11	CARBON 15K 5% 1/4W	
R202	1-249-431-11	CARBON 15K 5% 1/4W	
R203	1-249-431-11	CARBON 15K 5% 1/4W	
⚠R204	1-249-423-11	CARBON 3.3K 5% 1/4W	F (AEP,NC,VC)
⚠R204	1-249-422-11	CARBON 2.7K 5% 1/4W	F (B)
R205	1-249-429-11	CARBON 10K 5% 1/4W	
R206	1-249-431-11	CARBON 15K 5% 1/4W	
R207	1-249-429-11	CARBON 10K 5% 1/4W	(AEP,NC,VC)
R208	1-247-891-00	CARBON 330K 5% 1/4W	
R209	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R210	1-249-422-11	CARBON 2.7K 5% 1/4W	F (AEP,NC,VC)
⚠R210	1-249-417-11	CARBON 1K 5% 1/4W	F (B)
R211	1-249-433-11	CARBON 22K 5% 1/4W	
R212	1-247-899-11	CARBON 680K 5% 1/4W	
R213	1-247-899-11	CARBON 680K 5% 1/4W	
R214	1-249-437-11	CARBON 47K 5% 1/4W	
R215	1-249-437-11	CARBON 47K 5% 1/4W	
R216	1-249-435-11	CARBON 33K 5% 1/4W	
⚠R217	1-249-413-11	CARBON 470 5% 1/4W	F
R218	1-249-426-11	CARBON 5.6K 5% 1/4W	
⚠R219	1-249-413-11	CARBON 470 5% 1/4W	F
R220	1-249-429-11	CARBON 10K 5% 1/4W	
R221	1-249-441-11	CARBON 100K 5% 1/4W	
R222	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R224	1-249-414-11	CARBON 560 5% 1/4W	F
⚠R225	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R227	1-249-405-11	CARBON 100 5% 1/4W	F
R228	1-249-437-11	CARBON 47K 5% 1/4W	
R241	1-249-439-11	CARBON 68K 5% 1/4W	
R242	1-249-439-11	CARBON 68K 5% 1/4W	
R243	1-249-439-11	CARBON 68K 5% 1/4W	
R246	1-249-439-11	CARBON 68K 5% 1/4W	
R247	1-249-440-11	CARBON 82K 5% 1/4W	(B,VC)
R251	1-249-431-11	CARBON 15K 5% 1/4W	
R252	1-249-431-11	CARBON 15K 5% 1/4W	
R253	1-249-431-11	CARBON 15K 5% 1/4W	
⚠R254	1-249-423-11	CARBON 3.3K 5% 1/4W	F (AEP,NC,VC)
⚠R254	1-249-421-11	CARBON 2.2K 5% 1/4W	F (B)
R255	1-249-429-11	CARBON 10K 5% 1/4W	
R256	1-249-431-11	CARBON 15K 5% 1/4W	
R257	1-249-429-11	CARBON 10K 5% 1/4W	(AEP,NC,VC)
R258	1-247-891-00	CARBON 330K 5% 1/4W	
R259	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R260	1-249-422-11	CARBON 2.7K 5% 1/4W	F (AEP,NC,VC)
⚠R260	1-249-417-11	CARBON 1K 5% 1/4W	F (B)
R261	1-249-433-11	CARBON 22K 5% 1/4W	
R262	1-247-899-11	CARBON 680K 5% 1/4W	
R263	1-247-899-11	CARBON 680K 5% 1/4W	
R264	1-249-437-11	CARBON 47K 5% 1/4W	

Note:	Note:
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Ref. No.	Part No.	Description	Remarks
R265	1-249-437-11	CARBON 47K 5% 1/4W	
R266	1-249-435-11	CARBON 33K 5% 1/4W	
⚠R267	1-249-413-11	CARBON 470 5% 1/4W	F
R268	1-249-426-11	CARBON 5.6K 5% 1/4W	
⚠R269	1-249-413-11	CARBON 470 5% 1/4W	F
R270	1-249-429-11	CARBON 10K 5% 1/4W	
R271	1-249-441-11	CARBON 100K 5% 1/4W	
R272	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R274	1-249-414-11	CARBON 560 5% 1/4W	F
⚠R275	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R277	1-249-405-11	CARBON 100 5% 1/4W	F
R278	1-249-437-11	CARBON 47K 5% 1/4W	
R281	1-249-431-11	CARBON 15K 5% 1/4W	
R282	1-249-439-11	CARBON 68K 5% 1/4W	
⚠R284	1-249-417-11	CARBON 1K 5% 1/4W	F
R285	1-249-431-11	CARBON 15K 5% 1/4W	
R286	1-249-439-11	CARBON 68K 5% 1/4W	
R287	1-249-429-11	CARBON 10K 5% 1/4W	
R288	1-249-429-11	CARBON 10K 5% 1/4W	
R291	1-249-439-11	CARBON 68K 5% 1/4W	
R292	1-249-439-11	CARBON 68K 5% 1/4W	
R293	1-249-439-11	CARBON 68K 5% 1/4W	
R296	1-249-439-11	CARBON 68K 5% 1/4W	
R297	1-249-440-11	CARBON 82K 5% 1/4W	(B, VC)
R298	1-249-429-11	CARBON 10K 5% 1/4W	
R299	1-249-437-11	CARBON 47K 5% 1/4W	(AEP, NC, VC)
⚠R299	1-249-425-11	CARBON 4.7K 5% 1/4W	F (B)
R301	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R302	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R303	1-247-891-00	CARBON 330K 5% 1/4W	
R304	1-247-887-00	CARBON 220K 5% 1/4W	
⚠R305	1-249-417-11	CARBON 1K 5% 1/4W	F
⚠R306	1-249-405-11	CARBON 100 5% 1/4W	F
R307	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R308	1-249-417-11	CARBON 1K 5% 1/4W	F
⚠R401	1-249-425-11	CARBON 4.7K 5% 1/4W	F
⚠R402	1-249-425-11	CARBON 4.7K 5% 1/4W	F
⚠R403	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R404	1-249-429-11	CARBON 10K 5% 1/4W	
R405	1-249-429-11	CARBON 10K 5% 1/4W	
R406	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R407	1-249-417-11	CARBON 1K 5% 1/4W	F
⚠R408	1-249-417-11	CARBON 1K 5% 1/4W	F
⚠R409	1-249-417-11	CARBON 1K 5% 1/4W	F
R410	1-249-429-11	CARBON 10K 5% 1/4W	
R411	1-249-429-11	CARBON 10K 5% 1/4W	
R412	1-249-437-11	CARBON 47K 5% 1/4W	
R413	1-249-436-11	CARBON 39K 5% 1/4W	
R414	1-249-429-11	CARBON 10K 5% 1/4W	
R415	1-249-429-11	CARBON 10K 5% 1/4W	
R416	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R418	1-249-417-11	CARBON 1K 5% 1/4W	F
R419	1-249-436-11	CARBON 39K 5% 1/4W	
R420	1-249-429-11	CARBON 10K 5% 1/4W	
R421	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R422	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R423	1-247-885-00	CARBON 180K 5% 1/4W	
⚠R424	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R425	1-249-439-11	CARBON 68K 5% 1/4W	
R426	1-249-434-11	CARBON 27K 5% 1/4W	
⚠R427	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R428	1-247-705-11	CARBON 270 5% 1/4W	
⚠R432	1-249-405-11	CARBON 100 5% 1/4W	F
⚠R433	1-249-417-11	CARBON 1K 5% 1/4W	F
R434	1-249-441-11	CARBON 100K 5% 1/4W	
R435	1-247-901-11	CARBON 820K 5% 1/4W	
R436	1-249-411-11	CARBON 330 5% 1/4W	
R437	1-249-437-11	CARBON 47K 5% 1/4W	
R438	1-249-437-11	CARBON 47K 5% 1/4W	
R439	1-249-439-11	CARBON 68K 5% 1/4W	
⚠R440	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R441	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R442	1-249-417-11	CARBON 1K 5% 1/4W	F
R443	1-215-429-00	METAL 2.2K 1% 1/6W	
R444	1-249-429-11	CARBON 10K 5% 1/4W	
R445	1-249-429-11	CARBON 10K 5% 1/4W	
R446	1-249-435-11	CARBON 33K 5% 1/4W	
R448	1-215-429-00	METAL 2.2K 1% 1/6W	
R450	1-249-429-11	CARBON 10K 5% 1/4W	(B, VC)
R507	1-249-429-11	CARBON 10K 5% 1/4W	(VC)
R509	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, NC, VC)
R510	1-249-441-11	CARBON 100K 5% 1/4W	(AEP, NC, VC)
⚠R522	1-249-419-11	CARBON 1.5K 5% 1/4W	F (AEP, NC, VC)
⚠R523	1-249-417-11	CARBON 1K 5% 1/4W	F (AEP, NC, VC)
⚠R524	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R525	1-247-895-00	CARBON 470K 5% 1/4W	
R526	1-249-437-11	CARBON 47K 5% 1/4W	(B)
R527	1-249-437-11	CARBON 47K 5% 1/4W	(B)
⚠R528	1-249-417-11	CARBON 1K 5% 1/4W	F (AEP, NC, VC)
⚠R529	1-249-417-11	CARBON 1K 5% 1/4W	F (AEP, NC, VC)
⚠R530	1-249-420-11	CARBON 1.8K 5% 1/4W	F (AEP, NC, VC)
⚠R531	1-249-417-11	CARBON 1K 5% 1/4W	F
⚠R535	1-249-417-11	CARBON 1K 5% 1/4W	F (AEP, NC, VC)
⚠R536	1-249-417-11	CARBON 1K 5% 1/4W	F (AEP, NC, VC)
⚠R537	1-249-428-11	CARBON 8.2K 5% 1/4W	F (NC)
R538	1-249-430-11	CARBON 12K 5% 1/4W	(NC)
⚠R539	1-249-423-11	CARBON 3.3K 5% 1/4W	F (AEP, B, VC)
R540	1-249-433-11	CARBON 22K 5% 1/4W	(AEP, B, VC)
R551	1-249-429-11	CARBON 10K 5% 1/4W	(B)
R552	1-249-429-11	CARBON 10K 5% 1/4W	(B)

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
R553	1-249-429-11	CARBON 10K 5% 1/4W (B)	
R559	1-249-441-11	CARBON 100K 5% 1/4W (B)	
R560	1-249-441-11	CARBON 100K 5% 1/4W (B)	
⚠R572	1-249-417-11	CARBON 1K 5% 1/4W F	
⚠R573	1-249-421-11	CARBON 2.2K 5% 1/4W F (AEP,VC)	
⚠R573	1-249-425-11	CARBON 4.7K 5% 1/4W F (B,NC)	
⚠R574	1-249-405-11	CARBON 100 5% 1/4W F	
⚠R575	1-249-425-11	CARBON 4.7K 5% 1/4W F (AEP,VC)	
R575	1-249-429-11	CARBON 10K 5% 1/4W (B,NC)	
⚠R585	1-249-425-11	CARBON 4.7K 5% 1/4W F (NC)	
R701	1-249-429-11	CARBON 10K 5% 1/4W	
R702	1-249-429-11	CARBON 10K 5% 1/4W	
R703	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R704	1-249-407-11	CARBON 150 5% 1/4W F	
⚠R705	1-249-421-11	CARBON 2.2K 5% 1/4W F	
⚠R706	1-249-428-11	CARBON 8.2K 5% 1/4W F	
⚠R707	1-249-410-11	CARBON 270 5% 1/4W F	
⚠R708	1-249-393-11	CARBON 10 5% 1/4W F	
R710	1-249-436-11	CARBON 39K 5% 1/4W	
⚠R711	1-249-416-11	CARBON 820 5% 1/4W F	
R712	1-247-887-00	CARBON 220K 5% 1/4W	
R713	1-249-411-11	CARBON 330 5% 1/4W	
R714	1-249-429-11	CARBON 10K 5% 1/4W	
R715	1-249-437-11	CARBON 47K 5% 1/4W	
R716	1-249-433-11	CARBON 22K 5% 1/4W	
R717	1-247-903-00	CARBON 1M 5% 1/4W	
⚠R719	1-249-427-11	CARBON 6.8K 5% 1/4W F	
R720	1-249-433-11	CARBON 22K 5% 1/4W	
⚠R721	1-249-416-11	CARBON 820 5% 1/4W F (AEP,NC)	
⚠R721	1-249-425-11	CARBON 4.7K 5% 1/4W F (B,VC)	
R722	1-249-438-11	CARBON 56K 5% 1/4W (B)	
R725	1-249-432-11	CARBON 18K 5% 1/4W	
R729	1-249-426-11	CARBON 5.6K 5% 1/4W	
R730	1-249-433-11	CARBON 22K 5% 1/4W	
⚠R733	1-249-387-11	CARBON 3.3 5% 1/4W F	
R740	1-249-440-11	CARBON 82K 5% 1/4W (B,VC)	
R741	1-249-437-11	CARBON 47K 5% 1/4W (B,VC)	
R742	1-249-437-11	CARBON 47K 5% 1/4W (B,VC)	
R746	1-249-437-11	CARBON 47K 5% 1/4W (B,VC)	
R747	1-249-437-11	CARBON 47K 5% 1/4W (B,VC)	
R750	1-249-429-11	CARBON 10K 5% 1/4W (B,VC)	
R790	1-249-440-11	CARBON 82K 5% 1/4W (B,VC)	
		< RF MODULATOR >	
⚠RF501	1-466-328-11	MODULATOR, RF (RFU-2017)(AEP,NC,VC)	
⚠RF501	1-466-348-11	MODULATOR, RF (RFU-2023)(B)	

Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV201	1-241-077-11	RES, ADJ, CARBON 2.2K	
RV400	1-241-083-11	RES, ADJ, CARBON 47K	
RV401	1-241-083-11	RES, ADJ, CARBON 47K	
RV501	1-241-079-11	RES, ADJ, CARBON 4.7K (AEP,NC,VC)	
RV701	1-241-085-11	RES, ADJ, CARBON 220K	
		< TRANSFORMER >	
T701	1-433-352-11	TRANSFORMER, BIAS OSCILLATION	
		< TUNER >	
TU501	1-465-260-11	TUNER, ET (BTP-2C401) (AEP,NC,VC)	
		< VIBRATOR >	
X401	1-578-774-11	VIBRATOR, CRYSTAL 12MHz	
X501	1-567-925-11	VIBRATOR, CRYSTAL 10MHz (AEP,NC,VC)	

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* A-6754-449-A MD-56 BOARD, COMPLETE (AEP,NC,VC)

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(Ref.No.19000 Series.)

Ref. No.	Part No.	Description				Remarks
		< CAPACITOR >				
C001	1-161-494-00	CERAMIC	0.022uF		25V	
C002	1-161-494-00	CERAMIC	0.022uF		25V	
C003	1-126-157-11	ELECT	10uF	20%	16V	
C004	1-161-379-00	CERAMIC	0.01uF	20%	25V	
C006	1-124-589-11	ELECT	47uF	20%	16V	
C008	1-164-159-11	CERAMIC	0.1uF		50V	
C009	1-164-159-11	CERAMIC	0.1uF		50V	
C025	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C026	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		< CONNECTOR >				
CN002	1-569-335-11	CONNECTOR, BOARD TO BOARD 9P				
CN003	1-691-643-11	CONNECTOR, BOARD TO BOARD				
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P				
CN005	1-506-482-11	PIN, CONNECTOR 3P				
CN006	1-569-333-11	CONNECTOR, BOARD TO BOARD 3P				
CN007	1-569-340-11	CONNECTOR, BOARD TO BOARD 11P				
		< DIODE >				
D001	8-719-985-00	DIODE	GL451VS1			
D004	8-719-109-93	DIODE	RD6.2ES-B2			
D005	8-719-109-93	DIODE	RD6.2ES-B2			
D006	8-719-109-93	DIODE	RD6.2ES-B2			
D007	8-719-109-93	DIODE	RD6.2ES-B2			

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC002	8-759-912-77	IC uPC324C	
		< PHOTO INTERUPTER >	
PH001	8-759-144-33	IC PS6002	
PH002	8-759-144-33	IC PS6002	
		< TRANSISTOR >	
Q001	8-729-926-31	TRANSISTOR PT483F1S	
Q002	8-729-926-31	TRANSISTOR PT483F1S	
		< RESISTOR >	
⚠R001	1-249-423-11	CARBON 3.3K 5% 1/4W F	
⚠R002	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R003	1-249-426-11	CARBON 5.6K 5% 1/4W	
R004	1-249-426-11	CARBON 5.6K 5% 1/4W	
⚠R005	1-249-417-11	CARBON 1K 5% 1/4W F	
R006	1-249-441-11	CARBON 100K 5% 1/4W	
R007	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R008	1-249-425-11	CARBON 4.7K 5% 1/4W F	
⚠R009	1-249-408-11	CARBON 180 5% 1/4W F	
⚠R010	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R011	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R012	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R015	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R016	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R017	1-249-429-11	CARBON 10K 5% 1/4W	
R018	1-249-429-11	CARBON 10K 5% 1/4W	
R019	1-249-429-11	CARBON 10K 5% 1/4W	
R020	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R023	1-249-414-11	CARBON 560 5% 1/4W F	
		< SWITCH >	
S001	1-570-953-11	SWITCH, PUSH (1 KEY)	
S002	1-570-953-11	SWITCH, PUSH (1 KEY)	

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* A-6754-435-A MD-58 BOARD, COMPLETE (B)

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(Ref. No. 10000 Series.)

Ref. No.	Part No.	Description	Remarks
		< CAPACITOR >	
C001	1-161-494-00	CERAMIC 0.022uF 25V	
C002	1-161-494-00	CERAMIC 0.022uF 25V	
C003	1-126-157-11	ELECT 10uF 20% 16V	
C004	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C006	1-124-589-11	ELECT 47uF 20% 16V	
C008	1-164-159-11	CERAMIC 0.1uF 50V	
C009	1-164-159-11	CERAMIC 0.1uF 50V	
C025	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C026	1-162-294-31	CERAMIC 0.001uF 10% 50V	
		< CONNECTOR >	
CN002	1-569-335-11	CONNECTOR, BOARD TO BOARD 9P	
CN003	1-691-643-11	CONNECTOR, BOARD TO BOARD	
CN004	1-569-341-11	CONNECTOR, BOARD TO BOARD 19P	
CN005	1-506-482-11	PIN, CONNECTOR 3P	
CN006	1-569-333-11	CONNECTOR, BOARD TO BOARD 3P	
CN007	1-569-340-11	CONNECTOR, BOARD TO BOARD 11P	
		< DIODE >	
D001	8-719-985-00	DIODE GL451VS1	
D004	8-719-109-93	DIODE RD6.2ES-B2	
D005	8-719-109-93	DIODE RD6.2ES-B2	
D006	8-719-109-93	DIODE RD6.2ES-B2	
D007	8-719-109-93	DIODE RD6.2ES-B2	
		< IC >	
IC002	8-759-912-77	IC uPC324C	
		< PHOTO INTERUPTER >	
PH001	8-759-144-33	IC PS6002	
PH002	8-759-144-33	IC PS6002	
		< TRANSISTOR >	
Q001	8-729-926-31	TRANSISTOR PT483F1S	
Q002	8-729-926-31	TRANSISTOR PT483F1S	
		< RESISTOR >	
⚠R001	1-249-423-11	CARBON 3.3K 5% 1/4W F	
⚠R002	1-249-423-11	CARBON 3.3K 5% 1/4W F	
R003	1-249-426-11	CARBON 5.6K 5% 1/4W	
R004	1-249-426-11	CARBON 5.6K 5% 1/4W	
⚠R005	1-249-417-11	CARBON 1K 5% 1/4W F	
R006	1-249-441-11	CARBON 100K 5% 1/4W	
R007	1-249-441-11	CARBON 100K 5% 1/4W	
⚠R008	1-249-425-11	CARBON 4.7K 5% 1/4W F	
⚠R009	1-249-408-11	CARBON 180 5% 1/4W F	
⚠R010	1-249-422-11	CARBON 2.7K 5% 1/4W F	
R011	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R012	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R015	1-249-437-11	CARBON 47K 5% 1/4W	
⚠R016	1-249-421-11	CARBON 2.2K 5% 1/4W F	
R017	1-249-429-11	CARBON 10K 5% 1/4W	
R018	1-249-429-11	CARBON 10K 5% 1/4W	
R019	1-249-429-11	CARBON 10K 5% 1/4W	
R020	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R023	1-249-414-11	CARBON 560 5% 1/4W F	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		< SWITCH >	
S001	1-570-953-11	SWITCH, PUSH (1 KEY)	
S002	1-570-953-11	SWITCH, PUSH (1 KEY)	

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Ref. No.	Part No.	Description	Remarks
*	A-6721-490-A	MF-167 BOARD, COMPLETE (AEP)	
		*****************************	
*	A-6721-517-A	MF-167 BOARD, COMPLETE (B)	
		***************************	
*	A-6721-487-A	MF-167 BOARD, COMPLETE (NC)	
		****************************	
*	A-6721-488-A	MF-167 BOARD, COMPLETE (VC)	
		****************************	
		(Ref.No. 16000 Series.)	
	3-738-216-01	COVER, VOLUME	
*	3-948-157-01	HOLDER, FL	
		< BUZZER >	
BZ601	1-529-080-11	BUZZER, PIEZOELECTRIC	
		< CAPACITOR >	
C601	1-126-096-11	ELECT 10uF 20% 35V	
C602	1-124-472-11	ELECT 470uF 20% 10V	
C603	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C604	1-125-705-11	CAP, DOUBLE LAYEYERS 0.22F	
C605	1-126-096-11	ELECT 10uF 20% 35V	
C607	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C608	1-162-219-31	CERAMIC 68PF 5% 50V	
C609	1-124-443-00	ELECT 100uF 20% 10V (AEP, NC, VC)	
C609	1-126-160-11	ELECT 1uF 20% 50V (B)	
C611	1-126-160-11	ELECT 1uF 20% 50V	
C612	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C613	1-161-494-00	CERAMIC 0.022uF 25V	
C614	1-162-306-11	CERAMIC 0.01uF 20% 16V	
		< CONNECTOR >	
CN601	1-568-079-11	CONNECTOR (RECEPTALE) 20P	
CN602	1-568-081-11	CONNECTOR (RECEPTALE) 24P	
* CN603	1-573-387-11	CONNECTOR, BOARD TO BOARD 12P	
CN604	1-568-673-11	CONNECTOR, BOARD TO BOARD 14P	
CN605	1-563-593-11	CONNECTOR, FLEXIBLE 16P	
		< VARIABLE CAPACITOR >	
CV601	1-141-227-00	CAP, TRIMMER 20PF	

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D601	8-719-110-08	DIODE RD8.2ES-B2	
D602	8-719-974-59	DIODE 1SR139-100 (AEP, NC, VC)	
D602	8-719-200-82	DIODE 11ES2 (B)	
D603	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D603	8-719-911-19	DIODE 1SS119 (B)	
D604	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D604	8-719-911-19	DIODE 1SS119 (B)	
D605	8-719-974-59	DIODE 1SR139-100 (AEP, NC, VC)	
D605	8-719-200-82	DIODE 11ES2 (B)	
D610	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D610	8-719-911-19	DIODE 1SS119 (B)	
D611	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D611	8-719-911-19	DIODE 1SS119 (B)	
D612	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D612	8-719-911-19	DIODE 1SS119 (B)	
D613	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D613	8-719-911-19	DIODE 1SS119 (B)	
D614	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D614	8-719-911-19	DIODE 1SS119 (B)	
D615	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D615	8-719-911-19	DIODE 1SS119 (B)	
D616	8-719-109-93	DIODE RD6.2ES-B2	
D618	8-719-970-67	DIODE SLR-34MCA49 (AEP, NC, VC)	
D618	8-719-940-82	DIODE SLR34MC3 (B)	
D619	8-719-970-68	DIODE SLR-34VCA49 (AEP, NC, VC)	
D619	8-719-940-99	DIODE SLR34VC3 (B)	
D620	8-719-970-68	DIODE SLR-34VCA49 (AEP, NC, VC)	
D620	8-719-940-99	DIODE SLR34VC3 (B)	
		< IC >	
IC601	8-759-094-10	IC MB89796B-104	
IC602	8-759-748-54	IC CAT35C202P	
IC603	8-759-520-98	IC PST572K	
IC604	8-759-510-43	IC PST572C	
IC605	1-466-131-21	IC GP1U52X	
		< COIL >	
L601	1-410-510-11	INDUCTOR 12uH (AEP, NC, VC)	
L601	1-410-361-21	INDUCTOR 12uH (B)	
L602	1-408-401-00	INDUCTOR 2.2uH	
L604	1-410-517-11	INDUCTOR 47uH	
L605	1-410-501-11	INDUCTOR 2.2uH	
L607	1-410-336-11	INDUCTOR 220uH	
L609	1-410-501-11	INDUCTOR 2.2uH	
L610	1-410-501-11	INDUCTOR 2.2uH	

MF-167 MF-168

Ref. No.	Part No.	Description	Remarks
		< LIQUID CRYSTAL DISPLAY >	
LCD601	1-519-507-41	INDICATOR TUBE, FLUORESCENT	
		< TRANSISTOR >	
Q601	8-729-900-89	TRANSISTOR DTC144ES	
Q602	8-729-900-89	TRANSISTOR DTC144ES	
Q603	8-729-900-80	TRANSISTOR DTC114ES	
Q604	8-729-900-80	TRANSISTOR DTC114ES	
Q605	8-729-900-80	TRANSISTOR DTC114ES	
Q606	8-729-900-80	TRANSISTOR DTC114ES	
Q608	8-729-900-80	TRANSISTOR DTC114ES (VC)	
		< RESISTOR >	
R601	1-249-435-11	CARBON 33K 5% 1/4W	
R603	1-249-440-11	CARBON 82K 5% 1/4W	
R604	1-249-441-11	CARBON 100K 5% 1/4W	
R605	1-249-429-11	CARBON 10K 5% 1/4W	
R607	1-249-437-11	CARBON 47K 5% 1/4W	
R608	1-249-429-11	CARBON 10K 5% 1/4W (VC)	
⚠R609	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
⚠R618	1-249-407-11	CARBON 150 5% 1/4W F	
⚠R619	1-249-409-11	CARBON 220 5% 1/4W F	
⚠R620	1-249-409-11	CARBON 220 5% 1/4W F (B)	
⚠R622	1-249-405-11	CARBON 100 5% 1/4W F	
R623	1-249-429-11	CARBON 10K 5% 1/4W	
R624	1-249-429-11	CARBON 10K 5% 1/4W	
R625	1-249-429-11	CARBON 10K 5% 1/4W	
R626	1-249-429-11	CARBON 10K 5% 1/4W	
R627	1-249-429-11	CARBON 10K 5% 1/4W	
R628	1-249-429-11	CARBON 10K 5% 1/4W	
R629	1-249-429-11	CARBON 10K 5% 1/4W	
R630	1-249-429-11	CARBON 10K 5% 1/4W	
R653	1-249-437-11	CARBON 47K 5% 1/4W (B)	
R654	1-249-437-11	CARBON 47K 5% 1/4W (NC, VC)	
R655	1-249-437-11	CARBON 47K 5% 1/4W (AEP, NC)	
⚠R662	1-249-417-11	CARBON 1K 5% 1/4W F	
⚠R664	1-249-417-11	CARBON 1K 5% 1/4W F	
⚠R670	1-249-425-11	CARBON 4.7K 5% 1/4W F	
⚠R671	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R698	1-249-433-11	CARBON 22K 5% 1/4W	
R699	1-249-437-11	CARBON 47K 5% 1/4W	

Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV601	1-241-358-11	RES, VAR, CARBON 20K (LEFT)	
RV602	1-241-358-11	RES, VAR, CARBON 20K (RIGHT)	
RV603	1-230-523-11	RES, ADJ, METAL 10K	
RV604	1-230-523-11	RES, ADJ, METAL 10K	
		< VIBRATOR >	
X601	1-567-098-00	OSCILLATOR, CRYSTAL 32.768KHz	
X602	1-579-125-11	VIBRATOR, CERAMIC	

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Ref. No.	Part No.	Description	Remarks
*	A-6755-627-A	MF-168 BOARD, COMPLETE (AEP, NC, VC)	
		***********************************	
*	A-6755-466-A	MF-168 BOARD, COMPLETE (B)	
		***************************	
		(Ref. No. 11000 Series.)	
*	3-950-546-01	HOLDER, LED	
		< CAPACITOR >	
C201	1-126-160-11	ELECT 1uF 20% 50V	
C203	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C204	1-124-589-11	ELECT 47uF 20% 16V	
C205	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C206	1-126-157-11	ELECT 10uF 20% 16V	
C207	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C208	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C209	1-124-589-11	ELECT 47uF 20% 16V	
		< CONNECTOR >	
CN201	1-568-667-11	CONNECTOR, BOARD TO BOARD 14P	
CN202	1-563-587-11	CONNECTOR, FLEXIBLE 10P	
CN203	1-695-309-11	CONNECTOR, BOARD TO BOARD 11P	
CN204	1-506-487-11	PIN, CONNECTOR 8P	
		< DIODE >	
D201	8-719-988-92	DIODE BRPG5014X-K	
D202	8-719-988-92	DIODE BRPG5014X-K	
		< IC >	
IC201	8-759-924-46	IC BA4560F	
IC202	8-759-032-32	IC MC74HC132AF	
		< JUMPER RESISTOR >	
JR230	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR232	1-216-295-00	METAL CHIP 0 5% 1/10W (AEP, NC, VC)	
JR233	1-216-295-00	METAL CHIP 0 5% 1/10W	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		< COIL >	
L201	1-410-521-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q201	8-729-230-49	TRANSISTOR 2SC2712-G	
Q202	8-729-421-19	TRANSISTOR UN2213	
Q240	8-729-230-49	TRANSISTOR 2SC2712-G	
		< RESISTOR >	
R201	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R202	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R203	1-216-295-00	METAL CHIP 0 5% 1/10W	
R205	1-216-029-00	METAL CHIP 150 5% 1/10W	
R206	1-216-029-00	METAL CHIP 150 5% 1/10W	
R207	1-216-029-00	METAL CHIP 150 5% 1/10W	
R208	1-216-029-00	METAL CHIP 150 5% 1/10W	
R209	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R210	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R211	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R212	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R213	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R214	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R215	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R216	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R217	1-216-041-00	METAL CHIP 470 5% 1/10W	
R220	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R221	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R223	1-216-025-00	METAL CHIP 100 5% 1/10W	(AEP,NC,VC)
R223	1-216-031-00	METAL CHIP 180 5% 1/10W	(B)
R224	1-216-027-00	METAL CHIP 120 5% 1/10W	
R225	1-216-033-00	METAL CHIP 220 5% 1/10W	(AEP,NC,VC)
R225	1-216-023-00	METAL CHIP 82 5% 1/10W	(B)
R226	1-216-027-00	METAL CHIP 120 5% 1/10W	
R241	1-216-049-00	METAL CHIP 1K 5% 1/10W	
		< SWITCH >	
S201	1-571-977-11	SWITCH, TACTIL	
S202	1-571-300-21	SWITCH, ROTARY	

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* A-6755-628-A MF-169 BOARD, COMPLETE (AEP,NC,VC)
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* A-6755-811-A MF-169 BOARD, COMPLETE (B)
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(Ref.No.12000 Series.)

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN401	1-568-668-11	CONNECTOR, BOARD TO BOARD 6P	
CN402	1-563-619-11	CONNECTOR, FLEXIBLE 16P	(AEP,NC,VC)
CN402	1-563-619-21	CONNECTOR, FLEXIBLE 16P	(B)
		< JUMPER RESISTOR >	
JR401	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR402	1-216-295-00	METAL CHIP 0 5% 1/10W	(B)
		< TRANSISTOR >	
Q401	8-729-421-19	TRANSISTOR UN2213	(B)
Q402	8-729-421-19	TRANSISTOR UN2213	(B)
		< RESISTOR >	
R401	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R402	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R403	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R404	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R405	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R406	1-216-041-00	METAL CHIP 470 5% 1/10W	(B)
R407	1-216-041-00	METAL CHIP 470 5% 1/10W	(B)
R408	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R409	1-216-073-00	METAL CHIP 10K 5% 1/10W	(B)
		< VARIABLE RESISTOR >	
RV401	1-241-061-11	RES, VAR, CARBON 2K	(SHARPNESS)
RV402	1-238-420-11	RES, VAR, CARBON 10K	(PHONE LEVEL)
		< SWITCH >	
S401	1-572-907-11	SWITCH, SLIDE	(COMMAND MODE)
S402	1-570-847-11	SWITCH, SLIDE	(B)
S403	1-570-836-11	SWITCH, SLIDE	(B)
S404	1-572-908-11	SWITCH, SLIDE	(NTSC PB ON PAL TV)
S405	1-571-977-11	SWITCH, TACTIL	(CL)

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Ref. No.	Part No.	Description	Remarks
*	A-6755-629-A	MF-170 BOARD, COMPLETE (AEP,NC,VC)	

****

Ref. No.	Part No.	Description	Remarks
*	A-6755-814-A	MF-170 BOARD, COMPLETE (B)	

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(Ref.No.13000 Series.)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C300	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C302	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C303	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C304	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C306	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C308	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C310	1-136-015-00	CERAMIC CHIP 0.0033uF 50V	
C313	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C314	1-136-015-00	CERAMIC CHIP 0.0033uF 50V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
CN301	1-563-613-11	CONNECTOR, FLEXIBLE 10P (AEP,NC,VC)	
CN301	1-563-613-21	CONNECTOR, FLEXIBLE 10P (B)	
CN302	1-568-662-11	CONNECTOR, BOARD TO BOARD 6P	
CN303	1-506-468-11	PIN, CONNECTOR 3P	

< JACK >

Ref. No.	Part No.	Description	Remarks
CNJ301	1-695-312-11	JACK (SMALL TYPE) (MONO) (MIC)	
CNJ302	1-565-669-21	JACK, SMALL TYPE (PHONES)	
CNJ303	1-565-735-31	JACK, PIN 3P (LINE-2)	
CNJ304	1-568-800-11	JACK, ULTRA SMALL (CONTROL L)	

< DIODE >

Ref. No.	Part No.	Description	Remarks
D301	8-719-109-93	DIODE RD6.2ES-B2	
D302	8-719-109-93	DIODE RD6.2ES-B2	
D303	8-719-109-93	DIODE RD6.2ES-B2	
D321	8-719-109-93	DIODE RD6.2ES-B2	

< JUMPER RESISTOR >

Ref. No.	Part No.	Description	Remarks
JR301	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR302	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR303	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR311	1-216-295-00	METAL CHIP 0 5% 1/10W	

< COIL >

Ref. No.	Part No.	Description	Remarks
L301	1-410-336-11	INDUCTOR 220uH	
L302	1-410-336-11	INDUCTOR 220uH	
L303	1-410-336-11	INDUCTOR 220uH	
L304	1-410-336-11	INDUCTOR 220uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q321	8-729-140-75	TRANSISTOR 2SD999-CLCK	
Q322	8-729-140-75	TRANSISTOR 2SD999-CLCK	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R301	1-216-022-00	METAL CHIP 75 5% 1/10W	
R302	1-216-295-00	METAL CHIP 0 5% 1/10W	
R303	1-216-295-00	METAL CHIP 0 5% 1/10W	
R304	1-216-295-00	METAL CHIP 0 5% 1/10W	
R321	1-216-001-00	METAL CHIP 10 5% 1/10W	
R322	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	

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Ref. No.	Part No.	Description	Remarks
*	A-6727-445-A	RP-147 BOARD, COMPLETE (AEP,NC,VC)	

****

Ref. No.	Part No.	Description	Remarks
*	A-6727-467-A	RP-147 BOARD, COMPLETE (B)	

****

(Ref.No.1000 Series.)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C201	1-126-157-11	ELECT 10uF 20% 16V	
C202	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C260	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C261	1-124-584-00	ELECT 100uF 20% 10V	
C262	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C263	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C264	1-124-257-00	ELECT 2.2uF 20% 50V	
C265	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C267	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C268	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C269	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C270	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C273	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C274	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C275	1-126-160-11	ELECT 1uF 20% 50V	
C276	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C277	1-137-398-91	FILM 0.068uF 5% 100V	
C279	1-163-986-00	CERAMIC CHIP 0.027uF 10% 25V	
C280	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	
C281	1-124-589-11	ELECT 47uF 20% 16V	
C286	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C701	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C703	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C704	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C705	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C706	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C707	1-124-257-00	ELECT 2.2uF 20% 50V	
C708	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C709	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C710	1-126-233-11	ELECT 22uF 20% 50V	

Ref. No.	Part No.	Description	Remarks
C801	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C802	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C803	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C804	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C805	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C806	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C807	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C808	1-124-584-00	ELECT 100uF 20% 10V	
C809	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C810	1-124-584-00	ELECT 100uF 20% 10V	
C811	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C812	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C813	1-164-336-11	CERAMIC CHIP 0.33uF 25V	
C814	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C815	1-163-077-00	CERAMIC CHIP 0.1uF 10% 25V	
C816	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C817	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C818	1-163-107-00	CERAMIC CHIP 39PF 5% 50V	
C819	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C820	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C821	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C822	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C823	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C824	1-124-126-00	ELECT 47uF 20% 10V	
C826	1-124-589-11	ELECT 47uF 20% 16V	
C827	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C828	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C829	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C830	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C831	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C833	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C834	1-163-097-00	CERAMIC CHIP 15PF 5% 50V (AEP, NC, VC)	
C834	1-163-087-00	CERAMIC CHIP 4PF 50V (B)	
C835	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C836	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C839	1-163-099-00	CERAMIC CHIP 18PF 5% 50V	
C840	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C881	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C882	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C883	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C884	1-163-243-11	CERAMIC CHIP 47PF 5% 50V	
C890	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C892	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C893	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C894	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C895	1-163-245-11	CERAMIC CHIP 56PF 5% 50V	
C896	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C897	1-126-157-11	ELECT 10uF 20% 16V	
C902	1-163-129-00	CERAMIC CHIP 330PF 5% 50V (B)	

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN260	1-506-482-11	PIN, CONNECTOR 3P	
* CN801	1-563-590-11	CONNECTOR, FLEXIBLE 13P	
CN802	1-569-338-11	CONNECTOR, BOARD TO BOARD 19P	
* CN803	1-564-031-00	PIN, CONNECTOR 6P	
* CN804	1-564-018-51	PIN, CONNECTOR 8P	
		< DIODE >	
D790	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D790	8-719-911-19	DIODE 1SS119 (B)	
D791	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D791	8-719-911-19	DIODE 1SS119 (B)	
D801	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D801	8-719-911-19	DIODE 1SS119 (B)	
D802	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D802	8-719-911-19	DIODE 1SS119 (B)	
D803	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D803	8-719-911-19	DIODE 1SS119 (B)	
D805	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D805	8-719-911-19	DIODE 1SS119 (B)	
D806	8-719-400-18	DIODE MA152WK	
D807	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D807	8-719-911-19	DIODE 1SS119 (B)	
D899	8-719-987-06	DIODE WG713A (AEP, NC, VC)	
D899	8-719-911-19	DIODE 1SS119 (B)	
		< IC >	
IC260	8-759-055-49	IC AN3327K	
IC801	8-759-046-75	IC HA118162NT	
		< JUMPER RESISTOR >	
JR067	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR401	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR402	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR403	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR404	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR405	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR406	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR407	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR801	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< COIL >	
L201	1-410-509-11	INDUCTOR 10uH	
L260	1-410-521-11	INDUCTOR 100uH	
L265	1-408-426-00	INDUCTOR 270uH	
L701	1-410-521-11	INDUCTOR 100uH	
L702	1-410-519-11	INDUCTOR 68uH	

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Ref. No.	Part No.	Description	Remarks
L801	1-410-521-11	INDUCTOR 100uH	
L802	1-410-521-11	INDUCTOR 100uH	
L803	1-410-521-11	INDUCTOR 100uH	
L804	1-410-521-11	INDUCTOR 100uH	
L805	1-410-514-11	INDUCTOR 27uH	
L806	1-410-512-11	INDUCTOR 18uH (AEP, NC, VC)	
L806	1-410-515-11	INDUCTOR 33uH (B)	
L807	1-410-516-11	INDUCTOR 39uH	
L808	1-410-509-11	INDUCTOR 10uH	
L809	1-410-512-11	INDUCTOR 18uH	
L810	1-410-524-41	INDUCTOR 180uH	
L811	1-410-521-11	INDUCTOR 100uH	
L812	1-410-521-11	INDUCTOR 100uH	
L813	1-410-509-11	INDUCTOR 10uH	
L814	1-410-509-11	INDUCTOR 10uH	
L890	1-410-507-11	INDUCTOR 6.8uH	
L891	1-410-521-11	INDUCTOR 100uH	
L902	1-410-524-41	INDUCTOR 180uH (B)	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q201	8-729-140-97	TRANSISTOR KSA708	
Q260	8-729-103-72	TRANSISTOR 2SD1005-BV	
Q701	8-729-422-28	TRANSISTOR 2SD601A-R	
Q703	8-729-422-28	TRANSISTOR 2SD601A-R	
Q705	8-729-422-37	TRANSISTOR 2SB709A-R	
Q706	8-729-901-01	TRANSISTOR DTC144EK (AEP, NC, VC)	
Q706	8-729-421-19	TRANSISTOR UN2213 (B)	
Q707	8-729-422-28	TRANSISTOR 2SD601A-R	
Q801	8-729-422-28	TRANSISTOR 2SD601A-R	
Q802	8-729-422-28	TRANSISTOR 2SD601A-R	
Q803	8-729-901-06	TRANSISTOR DTA144EK (AEP, NC, VC)	
Q803	8-729-424-18	TRANSISTOR UN2113 (B)	
Q804	8-729-422-28	TRANSISTOR 2SD601A-R	
Q805	8-729-422-37	TRANSISTOR 2SB709A-R	
Q806	8-729-422-37	TRANSISTOR 2SB709A-R	
Q807	8-729-422-28	TRANSISTOR 2SD601A-R	
Q808	8-729-901-01	TRANSISTOR DTC144EK	
Q809	8-729-422-28	TRANSISTOR 2SD601A-R	
Q810	8-729-923-80	TRANSISTOR DTC143EK	
Q811	8-729-301-98	TRANSISTOR 2SB1000A-L	
Q813	8-729-901-06	TRANSISTOR DTA144EK (AEP, NC, VC)	
Q813	8-729-424-18	TRANSISTOR UN2113 (B)	
Q814	8-729-901-01	TRANSISTOR DTC144EK (AEP, NC, VC)	
Q814	8-729-421-19	TRANSISTOR UN2213 (B)	
Q890	8-729-216-22	TRANSISTOR 2SA1162	
Q891	8-729-216-22	TRANSISTOR 2SA1162	
Q892	8-729-901-01	TRANSISTOR DTC144EK (AEP, NC, VC)	
Q892	8-729-421-19	TRANSISTOR UN2213 (B)	

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R201	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R202	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R262	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R263	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R265	1-216-033-00	METAL CHIP 220 5% 1/10W	
R266	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R267	1-216-025-00	METAL CHIP 100 5% 1/10W	
R272	1-216-073-00	METAL CHIP 10K 5% 1/10W	
⚠R273	1-249-387-11	CARBON 3.3 5% 1/4W	F
R275	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R701	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R702	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R703	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R704	1-216-033-00	METAL CHIP 220 5% 1/10W	
R705	1-216-045-00	METAL CHIP 680 5% 1/10W	
R706	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R707	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R708	1-216-041-00	METAL CHIP 470 5% 1/10W	
R709	1-216-033-00	METAL CHIP 220 5% 1/10W	
R710	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R711	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R712	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R713	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R714	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R801	1-216-029-00	METAL CHIP 150 5% 1/10W	
R802	1-216-037-00	METAL CHIP 330 5% 1/10W	
R803	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R804	1-216-626-11	METAL CHIP 91 1% 1/10W	
R805	1-216-613-11	METAL CHIP 27 0.5% 1/10W	
R806	1-216-029-00	METAL CHIP 150 5% 1/10W	
R807	1-216-029-00	METAL CHIP 150 5% 1/10W	
R808	1-216-615-11	METAL CHIP 33 0.5% 1/10W	
R809	1-216-621-11	METAL CHIP 56 0.50% 1/10W	
R810	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R811	1-216-037-00	METAL CHIP 330 5% 1/10W	
R812	1-216-029-00	METAL CHIP 150 5% 1/10W	
R813	1-216-047-00	METAL CHIP 820 5% 1/10W	
R815	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R816	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R817	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R818	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R819	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R820	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R821	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R822	1-216-039-00	METAL CHIP 390 5% 1/10W	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
R823	1-216-047-00	METAL CHIP 820 5% 1/10W	
R824	1-216-039-00	METAL CHIP 390 5% 1/10W	
R825	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R826	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R827	1-216-045-00	METAL CHIP 680 5% 1/10W	
R828	1-216-043-00	METAL CHIP 560 5% 1/10W	
R829	1-216-041-00	METAL CHIP 470 5% 1/10W	(AEP,NC,VC)
R829	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R830	1-216-047-00	METAL CHIP 820 5% 1/10W	(AEP,NC,VC)
R830	1-216-041-00	METAL CHIP 470 5% 1/10W	(B)
R831	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R832	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R833	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R834	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R835	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R836	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R838	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R839	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R891	1-216-011-00	METAL CHIP 27 5% 1/10W	
R894	1-216-041-00	METAL CHIP 470 5% 1/10W	
R895	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
R896	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R897	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R898	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R899	1-249-433-11	CARBON 22K 5% 1/4W	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remarks
T260	1-406-349-11	TRANSFORMER, OSCILLATION	

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Ref. No.	Part No.	Description	Remarks
*	1-644-856-14	TK-17 BOARD	

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(Ref.No. 14000 Series.)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
* CN150	1-573-386-11	CONNECTOR, BOARD TO BOARD 12P	
* CN151	1-562-882-11	SOCKET, CONNECTOR 12P	

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Ref. No.	Part No.	Description	Remarks
*	1-644-857-14	TK-18 BOARD	

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(Ref.No. 15000 Series.)

< CONNECTOR >

Ref. No.	Part No.	Description	Remarks
CN250	1-695-310-11	CONNECTOR, BOARD TO BOARD 11P	
* CN251	1-562-882-11	SOCKET, CONNECTOR 12P	

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Ref. No.	Part No.	Description	Remarks
*	A-6755-630-A	VI-116 BOARD, COMPLETE (AEP,NC)	

****

Ref. No.	Part No.	Description	Remarks
*	A-6755-815-A	VI-116 BOARD, COMPLETE (B)	

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Ref. No.	Part No.	Description	Remarks
*	A-6755-623-A	VI-116 BOARD, COMPLETE (VC)	

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(Ref.No. 3000 Series.)

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C501	1-124-126-00	ELECT 47uF 20% 10V	
C502	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C503	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C504	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C505	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C506	1-124-126-00	ELECT 47uF 20% 10V	
C507	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C508	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C509	1-126-157-11	ELECT 10uF 20% 16V	(AEP,NC,VC)
C509	1-124-907-11	ELECT 10uF 20% 50V	(B)
C511	1-124-907-11	ELECT 10uF 20% 50V	
C512	1-124-907-11	ELECT 10uF 20% 50V	
C513	1-124-907-11	ELECT 10uF 20% 50V	
C514	1-124-907-11	ELECT 10uF 20% 50V	
C515	1-124-907-11	ELECT 10uF 20% 50V	
C519	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C521	1-163-029-11	CERAMIC CHIP 0.0047uF 50V	
C522	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C523	1-126-163-11	ELECT 4.7uF 20% 50V	(AEP,NC,VC)
C523	1-124-927-11	ELECT 4.7uF 20% 100V	(B,VC)
C524	1-124-907-11	ELECT 10uF 20% 50V	
C525	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C527	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C701	1-124-126-00	ELECT 47uF 20% 10V	(B,VC)
C702	1-163-031-11	CERAMIC CHIP 0.01uF 50V	(B,VC)
C703	1-163-031-11	CERAMIC CHIP 0.01uF 50V	(B,VC)
C704	1-163-031-11	CERAMIC CHIP 0.01uF 50V	(B,VC)
C706	1-124-907-11	ELECT 10uF 20% 50V	(B)
C707	1-124-907-11	ELECT 10uF 20% 50V	(B)
C708	1-124-907-11	ELECT 10uF 20% 50V	(B)

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN501	1-691-276-11	CONNECTOR, BOARD TO BOARD 13P	
* CN502	1-568-789-11	PIN, CONNECTOR 12P	
* CN503	1-568-783-31	PIN, CONNECTOR 6P (AEP,NC,VC)	
* CN503	1-568-783-11	PIN, CONNECTOR 6P (B)	
CN505	1-563-590-11	CONNECTOR, FLEXIBLE 13P (B,VC)	
CN507	1-506-468-11	PIN, CONNECTOR 3P	
		< DIODE >	
D502	8-719-400-18	DIODE MA152WK	
D503	8-719-104-34	DIODE 1S2836	
D505	8-719-400-18	DIODE MA152WK	
		< IC >	
IC501	8-759-503-52	IC MN1053XS	
IC502	8-759-048-09	IC MN1148XF	
IC503	8-759-048-09	IC MN1148XF (AEP,NC,VC)	
IC503	8-759-501-21	IC MN1149XF (B)	
IC504	8-759-504-44	IC MN1031XMR	
IC701	8-759-056-91	IC BA7611AN (B,VC)	
		< JUMPER RESISTOR >	
JR901	1-216-296-00	METAL CHIP 0 5% 1/8W	(AEP,NC,VC)
JR902	1-216-296-00	METAL CHIP 0 5% 1/8W	(AEP,NC,VC)
JR903	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP,NC,VC)
JR904	1-216-296-00	METAL CHIP 0 5% 1/8W	(AEP,NC,VC)
JR905	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP,NC,VC)
JR906	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR907	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR908	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR909	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR910	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR911	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR912	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP,NC,VC)
JR913	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP,NC,VC)
JR914	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP,NC,VC)
		< COIL >	
L501	1-408-421-00	INDUCTOR 100uH	
L502	1-408-421-00	INDUCTOR 100uH	
L701	1-408-421-00	INDUCTOR 100uH (B,VC)	
		< TRANSISTOR >	
Q501	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q502	8-729-216-22	TRANSISTOR 2SA1162	
Q503	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q504	8-729-900-53	TRANSISTOR DTC114EK (VC)	
Q506	8-729-901-06	TRANSISTOR DTA144EK	
Q507	8-729-901-01	TRANSISTOR DTC144EK	
Q508	8-729-901-01	TRANSISTOR DTC144EK	
Q701	8-729-216-22	TRANSISTOR 2SA1162 (B,VC)	
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (B,VC)	
Q703	8-729-216-22	TRANSISTOR 2SA1162 (B,VC)	
Q704	8-729-901-01	TRANSISTOR DTC144EK (B,VC)	
Q705	8-729-901-01	TRANSISTOR DTC144EK (B,VC)	
Q706	8-729-901-01	TRANSISTOR DTC144EK (VC)	
Q708	8-729-901-01	TRANSISTOR DTC144EK (B,VC)	
		< RESISTOR >	
R501	1-216-025-00	METAL CHIP 100 5% 1/10W	
R502	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R503	1-216-025-00	METAL CHIP 100 5% 1/10W	
R504	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R505	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R506	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R507	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R508	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R509	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R510	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R511	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R513	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (AEP,NC,VC)	
R514	1-216-073-00	METAL CHIP 10K 5% 1/10W (AEP,B,NC)	
R515	1-216-037-00	METAL CHIP 330 5% 1/10W	
R516	1-216-049-00	METAL CHIP 1K 5% 1/10W (B,VC)	
R701	1-216-025-00	METAL CHIP 100 5% 1/10W (B,VC)	
R702	1-216-063-00	METAL CHIP 3.9K 5% 1/10W (B,VC)	
R703	1-216-049-00	METAL CHIP 1K 5% 1/10W (B,VC)	
R704	1-216-021-00	METAL CHIP 68 5% 1/10W (B,VC)	
R707	1-216-073-00	METAL CHIP 10K 5% 1/10W (B,VC)	
R708	1-216-049-00	METAL CHIP 1K 5% 1/10W (B,VC)	
R709	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (B,VC)	
R710	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (B,VC)	
R711	1-216-065-00	METAL CHIP 4.7K 5% 1/10W (B,VC)	

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* A-6727-446-A YC-124 BOARD, COMPLETE (AEP,NC)

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* A-6727-465-A YC-124 BOARD, COMPLETE (B)

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* A-6727-444-A YC-124 BOARD, COMPLETE (VC)

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(Ref.No.2000 Series.)

9-910-999-33 SHEET (F), ADHESIVE

* 3-948-127-01 HOLDER, HF

< CAPACITOR >

Ref. No.	Part No.	Description	Remarks
C101	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C102	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C103	1-124-927-11	ELECT 4.7uF 20% 100V	
C104	1-126-233-11	ELECT 22uF 20% 50V	
C105	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C106	1-124-927-11	ELECT 4.7uF 20% 100V	
C107	1-124-927-11	ELECT 4.7uF 20% 100V	
C108	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C109	1-124-584-00	ELECT 100uF 20% 10V	
C110	1-163-035-00	CERAMIC CHIP 0.047uF 50V	
C111	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C112	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C113	1-163-139-00	CERAMIC CHIP 820PF 5% 50V	
C114	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C115	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C116	1-216-295-00	METAL CHIP 0 5% 1/10W	
C117	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
C118	1-124-927-11	ELECT 4.7uF 20% 100V	
C119	1-163-088-00	CERAMIC CHIP 5PF 50V	
C120	1-216-295-00	METAL CHIP 0 5% 1/10W	
C121	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	(B)
C122	1-163-033-00	CERAMIC CHIP 0.022uF 50V	(B)
C123	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C124	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C125	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C126	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C127	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C128	1-163-107-00	CERAMIC CHIP 39PF 5% 50V	
C130	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C131	1-124-584-00	ELECT 100uF 20% 10V	
C132	1-163-115-00	CERAMIC CHIP 82PF 5% 50V	
C133	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C134	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C135	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C136	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C137	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C138	1-124-925-11	ELECT 2.2uF 20% 100V	
C139	1-163-119-00	CERAMIC CHIP 120PF 5% 50V	
C141	1-124-126-00	ELECT 47uF 20% 10V	
C143	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C144	1-124-126-00	ELECT 47uF 20% 10V	
C146	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C147	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C149	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C150	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C151	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C153	1-124-126-00	ELECT 47uF 20% 10V	
C154	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C155	1-163-119-00	CERAMIC CHIP 120PF 5% 50V	
C156	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C160	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C163	1-124-927-11	ELECT 4.7uF 20% 100V	
C170	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C180	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C181	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	(B)
C182	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C183	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C185	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C190	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C300	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C301	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C302	1-124-442-00	ELECT 330uF 20% 6.3V	
C303	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C305	1-163-033-00	CERAMIC CHIP 0.022uF 50V	
C306	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C307	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C308	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C309	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C310	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C311	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	
C313	1-124-584-00	ELECT 100uF 20% 10V	
C314	1-124-584-00	ELECT 100uF 20% 10V	
C315	1-164-330-21	CERAMIC CHIP 0.22uF 10% 16V	
C316	1-126-163-11	ELECT 4.7uF 20% 50V	
C317	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C318	1-163-036-00	CERAMIC CHIP 0.068uF 50V	
C319	1-164-492-11	CERAMIC CHIP 0.15uF 10% 16V	
C320	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C321	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C323	1-124-927-11	ELECT 4.7uF 20% 100V	
C325	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C326	1-163-809-11	CERAMIC CHIP 0.047uF 10% 25V	
C327	1-164-336-11	CERAMIC CHIP 0.33uF 25V	
C328	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C329	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C330	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C331	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C332	1-124-902-00	ELECT 0.47uF 20% 50V	
C333	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
C334	1-124-902-00	ELECT 0.47uF 20% 50V	

YC-124

Ref. No.	Part No.	Description				Remarks
C335	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C336	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C337	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C338	1-124-126-00	ELECT	47uF	20%	10V	
C339	1-124-589-11	ELECT	47uF	20%	16V	
C340	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C341	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B, VC)
C342	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C343	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B, VC)
C345	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C346	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C348	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C350	1-163-129-00	CERAMIC CHIP	330PF	5%	50V	
C358	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	
C360	1-124-126-00	ELECT	47uF	20%	10V	
C361	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C362	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C363	1-124-903-11	ELECT	1uF	20%	50V	
C364	1-124-126-00	ELECT	47uF	20%	10V	
C365	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C366	1-124-903-11	ELECT	1uF	20%	50V	
C367	1-124-907-11	ELECT	10uF	20%	50V	
C368	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C369	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C370	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C371	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C372	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C373	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C374	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C375	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C376	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V	
C377	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C378	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V	
C379	1-163-035-00	CERAMIC CHIP	0.047uF		50V	
C380	1-124-903-11	ELECT	1uF	20%	50V	
C381	1-124-907-11	ELECT	10uF	20%	50V	
C382	1-123-382-00	ELECT	3.3uF	20%	100V	
C383	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C384	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C385	1-124-907-11	ELECT	10uF	20%	50V	
C386	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C387	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C388	1-124-907-11	ELECT	10uF	20%	50V	
C389	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C390	1-163-097-00	CERAMIC CHIP	15PF	5%	50V	
C391	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C392	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C393	1-124-034-51	ELECT	33uF	20%	16V	
C394	1-126-160-11	ELECT	1uF	20%	50V	
C395	1-163-038-00	CERAMIC CHIP	0.1uF		25V	

Ref. No.	Part No.	Description				Remarks
C396	1-124-903-11	ELECT	1uF	20%	50V	
C398	1-124-907-11	ELECT	10uF	20%	50V	
C399	1-124-126-00	ELECT	47uF	20%	10V	(B, VC)
C401	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C402	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(B)
C403	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C404	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C405	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C406	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C408	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C409	1-124-126-00	ELECT	47uF	20%	10V	(B)
C410	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C411	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C412	1-124-126-00	ELECT	47uF	20%	10V	(B)
C413	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	(B)
C414	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C415	1-163-038-00	CERAMIC CHIP	0.1uF		25V	(B)
C416	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V	(B)
C417	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	(B)
C418	1-163-033-00	CERAMIC CHIP	0.022uF		50V	(B)
C419	1-163-035-00	CERAMIC CHIP	0.047uF		50V	(B)
C420	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C421	1-163-038-00	CERAMIC CHIP	0.1uF		25V	(B)
C422	1-124-126-00	ELECT	47uF	20%	10V	(B)
C426	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(B)
C427	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	(B)
C428	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B)
C429	1-163-241-11	CERAMIC CHIP	39PF	5%	50V	(B)
C450	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V	(B, VC)
C451	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B, VC)
C452	1-163-038-00	CERAMIC CHIP	0.1uF		25V	(B, VC)
C454	1-126-163-11	ELECT	4.7uF	20%	50V	(B, VC)
C455	1-124-126-00	ELECT	47uF	20%	10V	(B, VC)
C457	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(B, VC)
C460	1-163-035-00	CERAMIC CHIP	0.047uF		50V	(B, VC)
C461	1-163-035-00	CERAMIC CHIP	0.047uF		50V	(B)
C462	1-163-035-00	CERAMIC CHIP	0.047uF		50V	(B)
C463	1-124-907-11	ELECT	10uF	20%	50V	(B)
C464	1-124-126-00	ELECT	47uF	20%	10V	(B)
C465	1-124-907-11	ELECT	10uF	20%	50V	(B, VC)
C501	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C502	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C511	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C512	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C513	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C514	1-216-295-00	METAL CHIP	0	5%	1/10W	
C515	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	
C516	1-124-927-11	ELECT	4.7uF	20%	100V	
C517	1-124-126-00	ELECT	47uF	20%	10V	
C518	1-163-038-00	CERAMIC CHIP	0.1uF		25V	

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN300	1-506-473-11	PIN, CONNECTOR 8P	
CN301	1-506-473-11	PIN, CONNECTOR 8P	
CN304	1-506-468-11	PIN, CONNECTOR 3P (B)	
CN305	1-506-476-11	PIN, CONNECTOR 11P (AEP, NC, VC)	
* CN305	1-573-134-41	PIN, CONNECTOR 11P (B)	
		< DIODE >	
D101	8-719-400-18	DIODE MA152WK	
D105	8-719-400-18	DIODE MA152WK	
D301	8-719-400-18	DIODE MA152WK	
D302	8-719-400-18	DIODE MA152WK	
D401	8-719-400-18	DIODE MA152WK (B)	
		< DELAY LINE >	
DL301	1-415-602-11	DELAY LINE, GLASS	
DL501	1-415-856-11	DELAY LINE, ULTRASONIC GLASS	
		< FILTER >	
FL101	1-236-312-11	FILTER, BAND PASS	
FL301	1-239-915-11	FILTER, BAND PASS	
FL302	1-236-311-11	FILTER, BAND PASS	
FL303	1-527-849-00	FILTER, CERAMIC	
FL401	1-236-584-11	BPF (B)	
FL402	1-236-582-11	BPF (B)	
FL403	1-236-920-11	FILTER, LOW PASS (B)	
FL404	1-236-920-11	FILTER, LOW PASS (B)	
FL405	1-236-585-11	BPF (B)	
FL406	1-236-585-11	BPF (B)	
FL450	1-527-943-00	FILTER, CERAMIC (B, VC)	
		< IC >	
IC101	8-759-420-07	IC AN3231K	
IC102	8-752-321-89	IC CXL5003P	
IC301	8-759-320-78	IC HA118016NT	
IC302	8-759-822-05	IC LA7213	
IC360	8-759-420-53	IC AN3592K	
IC361	8-759-991-54	IC MSM6989RS	
IC362	8-759-927-56	IC BA7021	
IC401	8-759-991-55	IC BA7107 (B)	
IC450	8-759-904-95	IC BA7007 (B, VC)	
IC460	8-759-927-46	IC SN74HC00ANS (B)	
IC461	8-759-987-16	IC LM393P (B)	
IC501	8-759-925-90	IC SN74HC74ANS	
IC502	8-759-300-71	IC TC4053BF	

Ref. No.	Part No.	Description	Remarks
		< JUMPER RESISTOR >	
JR001	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR002	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR003	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR004	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR005	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR006	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR007	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR008	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR009	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR010	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR011	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR012	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR013	1-216-296-00	METAL CHIP 0 5% 1/8W	(B)
JR014	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR017	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR018	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR019	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR020	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR021	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR022	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR023	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR024	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR026	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR027	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR029	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR030	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR031	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR032	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR033	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR034	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR035	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR036	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR038	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR039	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR040	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR041	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR042	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR043	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR044	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR045	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR046	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR047	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR048	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR049	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR050	1-216-296-00	METAL CHIP 0 5% 1/8W	

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Ref. No.	Part No.	Description	Remarks
JR051	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR052	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR053	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR054	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR055	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR056	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR057	1-216-295-00	METAL CHIP 0 5% 1/10W (VC)	
JR058	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR064	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR065	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR066	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR068	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR500	1-216-295-00	METAL CHIP 0 5% 1/10W	

< COIL >

Ref. No.	Part No.	Description	Remarks
L101	1-408-421-00	INDUCTOR 100uH	
L102	1-408-417-00	INDUCTOR 47uH (B)	
L103	1-408-419-00	INDUCTOR 68uH (B)	
L104	1-408-420-00	INDUCTOR 82uH	
L105	1-408-424-00	INDUCTOR 180uH	
L106	1-408-421-00	INDUCTOR 100uH	
L107	1-408-421-00	INDUCTOR 100uH	
L108	1-408-421-00	INDUCTOR 100uH	
L109	1-408-421-00	INDUCTOR 100uH	
L112	1-408-410-00	INDUCTOR 12uH	
L113	1-408-413-00	INDUCTOR 22uH	
L119	1-408-417-00	INDUCTOR 47uH	
L126	1-408-424-00	INDUCTOR 180uH	
L301	1-408-421-00	INDUCTOR 100uH	
L302	1-408-427-00	INDUCTOR 330uH	
L303	1-408-429-00	INDUCTOR 470uH	
L305	1-408-409-00	INDUCTOR 10uH	
L306	1-408-408-00	INDUCTOR 8.2uH (AEP,NC,VC)	
L306	1-410-508-11	INDUCTOR 8.2uH (B)	
L307	1-408-408-00	INDUCTOR 8.2uH	
L309	1-407-499-00	INDUCTOR 3.9mH	
L331	1-410-509-11	INDUCTOR 10uH	
L360	1-408-409-00	INDUCTOR 10uH	
L361	1-408-415-00	INDUCTOR 33uH	
L362	1-408-409-00	INDUCTOR 10uH	
L380	1-408-421-00	INDUCTOR 100uH	
L381	1-408-421-00	INDUCTOR 100uH	
L382	1-408-411-00	INDUCTOR 15uH	
L383	1-408-414-00	INDUCTOR 27uH	
L401	1-408-425-00	INDUCTOR 220uH (B)	
L410	1-408-414-00	INDUCTOR 27uH (B)	
L414	1-408-416-00	INDUCTOR 39uH (B)	
L415	1-408-416-00	INDUCTOR 39uH (B)	
L450	1-410-068-11	INDUCTOR 5.6mH (B,VC)	
L451	1-408-409-00	INDUCTOR 10uH (B)	
L490	1-410-509-11	INDUCTOR 10uH (B)	
L491	1-410-509-11	INDUCTOR 10uH (B)	
L501	1-410-506-11	INDUCTOR 5.6uH	
L502	1-410-521-11	INDUCTOR 100uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remarks
Q102	8-729-216-22	TRANSISTOR 2SA1162	
Q104	8-729-901-01	TRANSISTOR DTC144EK	
Q105	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q106	8-729-216-22	TRANSISTOR 2SA1162	
Q111	8-729-216-22	TRANSISTOR 2SA1162	
Q121	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q122	8-729-901-01	TRANSISTOR DTC144EK	
Q123	8-729-901-01	TRANSISTOR DTC144EK	
Q124	8-729-901-01	TRANSISTOR DTC144EK (B)	
Q125	8-729-901-01	TRANSISTOR DTC144EK (B)	
Q301	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q302	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q303	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q304	8-729-900-53	TRANSISTOR DTC114EK	
Q305	8-729-216-22	TRANSISTOR 2SA1162	
Q306	8-729-901-01	TRANSISTOR DTC144EK	
Q307	8-729-920-74	TRANSISTOR 2SC2412K-QR (B,VC)	
Q308	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q309	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q310	8-729-901-04	TRANSISTOR DTA114EK	
Q352	8-729-901-01	TRANSISTOR DTC144EK (B,VC)	
Q360	8-729-809-77	TRANSISTOR 2SC3142-J4	
Q362	8-729-901-01	TRANSISTOR DTC144EK	
Q380	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q381	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q382	8-729-216-22	TRANSISTOR 2SA1162	
Q390	8-729-901-01	TRANSISTOR DTC144EK	
Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR (B)	
Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR (B)	
Q403	8-729-901-47	TRANSISTOR DTA143EK	
Q405	8-729-920-74	TRANSISTOR 2SC2412K-QR (B)	
Q406	8-729-901-47	TRANSISTOR DTA143EK	
Q407	8-729-901-01	TRANSISTOR DTC144EK	
Q408	8-729-901-01	TRANSISTOR DTC144EK (B)	
Q450	8-729-920-74	TRANSISTOR 2SC2412K-QR (B,VC)	

Ref. No.	Part No.	Description	Remarks
Q451	8-729-901-01	TRANSISTOR DTC144EK	(B)
Q452	8-729-901-01	TRANSISTOR DTC144EK	(B)
Q453	8-729-901-01	TRANSISTOR DTC144EK	
Q460	8-729-901-01	TRANSISTOR DTC144EK	(B)
Q501	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q502	8-729-901-01	TRANSISTOR DTC144EK	
Q511	8-729-901-01	TRANSISTOR DTC144EK	
Q512	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q513	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q514	8-729-901-01	TRANSISTOR DTC144EK	
Q515	8-729-901-01	TRANSISTOR DTC144EK	
Q516	8-729-901-04	TRANSISTOR DTA114EK	
Q517	8-729-901-47	TRANSISTOR DTA143EK	
Q518	8-729-901-01	TRANSISTOR DTC144EK	
Q599	8-729-900-65	TRANSISTOR DTA144ES	(AEP,NC,VC)

< RESISTOR >

Ref. No.	Part No.	Description	Remarks
R101	1-216-105-00	METAL CHIP 220K 5% 1/10W	
⚠R102	1-249-421-11	CARBON 2.2K 5% 1/4W	F
R103	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R104	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R105	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R106	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R107	1-216-052-00	METAL CHIP 1.3K 5% 1/10W	
R108	1-216-036-00	METAL CHIP 300 5% 1/10W	
R109	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R110	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R112	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R113	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R114	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R116	1-216-041-00	METAL CHIP 470 5% 1/10W	
R117	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R118	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R119	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R120	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R122	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R123	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R124	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R125	1-216-039-00	METAL CHIP 390 5% 1/10W	
R126	1-216-047-00	METAL CHIP 820 5% 1/10W	
R127	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R128	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R129	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R130	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R131	1-216-041-00	METAL CHIP 470 5% 1/10W	
R134	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R135	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R136	1-216-041-00	METAL CHIP 470 5% 1/10W	
R137	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R138	1-216-033-00	METAL CHIP 220 5% 1/10W	
R141	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R144	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R154	1-216-039-00	METAL CHIP 390 5% 1/10W	
R155	1-216-129-00	METAL CHIP 2.2M 5% 1/10W	
R161	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R163	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R174	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R175	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R176	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R177	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R178	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R179	1-216-041-00	METAL CHIP 470 5% 1/10W	
R180	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R181	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R301	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R302	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R303	1-216-041-00	METAL CHIP 470 5% 1/10W	
R305	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R306	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R307	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R308	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R309	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R310	1-216-045-00	METAL CHIP 680 5% 1/10W	
R311	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R312	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R313	1-216-041-00	METAL CHIP 470 5% 1/10W	
R314	1-216-045-00	METAL CHIP 680 5% 1/10W	
R315	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R316	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R317	1-216-025-00	METAL CHIP 100 5% 1/10W	
R318	1-216-039-00	METAL CHIP 390 5% 1/10W	
R319	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R320	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R322	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R323	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R324	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R325	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	(B,VC)
R326	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	(B,VC)
R327	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	(B,VC)
R328	1-216-035-00	METAL CHIP 270 5% 1/10W	
R332	1-216-033-00	METAL CHIP 220 5% 1/10W	
R333	1-216-037-00	METAL CHIP 330 5% 1/10W	
R334	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R335	1-216-037-00	METAL CHIP 330 5% 1/10W	
R336	1-216-037-00	METAL CHIP 330 5% 1/10W	
R337	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

YC-124

Ref. No.	Part No.	Description	Remarks
R338	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R339	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R355	1-216-037-00	METAL CHIP 330 5% 1/10W	
R356	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R357	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R358	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R360	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R362	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R363	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R364	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R365	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R367	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R368	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R369	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R370	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R372	1-216-033-00	METAL CHIP 220 5% 1/10W	
R373	1-216-103-00	METAL CHIP 180K 5% 1/10W	
R374	1-249-429-11	CARBON 10K 5% 1/4W	
R375	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R380	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R381	1-216-037-00	METAL CHIP 330 5% 1/10W	
R382	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R383	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R384	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R385	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R386	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R387	1-216-041-00	METAL CHIP 470 5% 1/10W	
R388	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R390	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, NC, VC)
R394	1-216-025-00	METAL CHIP 100 5% 1/10W	
R395	1-216-041-00	METAL CHIP 470 5% 1/10W	
R399	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R401	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R402	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R403	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R404	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R405	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R407	1-216-085-00	METAL CHIP 33K 5% 1/10W	(B)
R408	1-216-081-00	METAL CHIP 22K 5% 1/10W	(B)
R409	1-216-037-00	METAL CHIP 330 5% 1/10W	(B)
R410	1-216-017-00	METAL CHIP 47 5% 1/10W	(B)
R411	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	(B)
R412	1-216-041-00	METAL CHIP 470 5% 1/10W	(B)
R413	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R414	1-216-075-00	METAL CHIP 12K 5% 1/10W	(B)
R415	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	(B)
R416	1-216-047-00	METAL CHIP 820 5% 1/10W	(B)
R417	1-216-093-00	METAL CHIP 68K 5% 1/10W	(B)
R418	------------	METAL CHIP 82K 5% 1/10W	(B)
R419	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R420	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R421	1-216-047-00	METAL CHIP 820 5% 1/10W	(B)
R422	1-216-075-00	METAL CHIP 12K 5% 1/10W	(B)
R423	1-216-041-00	METAL CHIP 470 5% 1/10W	(B)
R425	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(B)
R428	1-216-081-00	METAL CHIP 22K 5% 1/10W	(B)
R429	1-216-079-00	METAL CHIP 18K 5% 1/10W	(B)
R430	1-216-113-00	METAL CHIP 470K 5% 1/10W	(B)
R431	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R446	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(B, VC)
R447	1-216-073-00	METAL CHIP 10K 5% 1/10W	(B, VC)
R448	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	(B, VC)
R449	1-216-081-00	METAL CHIP 22K 5% 1/10W	(B, VC)
R450	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(B, VC)
R451	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(B)
R452	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(B)
R454	1-216-109-00	METAL CHIP 330K 5% 1/10W	(B, VC)
R460	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B, VC)
R461	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	(B, VC)
R462	1-216-089-00	METAL CHIP 47K 5% 1/10W	(B)
R463	1-216-089-00	METAL CHIP 47K 5% 1/10W	(B)
R464	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R465	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R466	1-216-089-00	METAL CHIP 47K 5% 1/10W	(B)
R467	1-216-089-00	METAL CHIP 47K 5% 1/10W	(B)
R468	1-216-083-00	METAL CHIP 27K 5% 1/10W	(B)
R469	1-216-089-00	METAL CHIP 47K 5% 1/10W	(B)
R470	1-216-073-00	METAL CHIP 10K 5% 1/10W	(B)
R471	1-216-049-00	METAL CHIP 1K 5% 1/10W	(B)
R478	1-216-073-00	METAL CHIP 10K 5% 1/10W	(B)
R501	1-216-035-00	METAL CHIP 270 5% 1/10W	
R502	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R503	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R504	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R505	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R511	1-216-045-00	METAL CHIP 680 5% 1/10W	
R512	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R513	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R514	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	(B, VC)
R514	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, NC)
R515	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(B, VC)
R515	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, NC)
R518	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R519	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R520	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R521	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R522	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R523	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R524	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R527	1-216-073-00	METAL CHIP 10K 5% 1/10W	

Ref. No.	Part No.	Description	Remarks
R528	1-216-049-00	METAL CHIP 1K 5% 1/10W (B, VC)	
R529	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R530	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R531	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
⚠R599	1-249-425-11	CARBON 4.7K 5% 1/4W F (AEP, NC, VC)	
		< VARIABLE RESISTOR >	
RV101	1-241-079-11	RES, ADJ, CARBON 4.7K	
RV102	1-241-079-11	RES, ADJ, CARBON 4.7K	
RV103	1-241-080-11	RES, ADJ, CARBON 10K	
RV104	1-241-081-11	RES, ADJ, CARBON 22K	
RV105	1-241-081-11	RES, ADJ, CARBON 22K	
RV107	1-241-076-11	RES, ADJ, CARBON 1K	
RV108	1-241-080-11	RES, ADJ, CARBON 10K	
RV110	1-241-076-11	RES, ADJ, CARBON 1K	
RV301	1-241-076-11	RES, ADJ, CARBON 1K	
RV360	1-237-521-21	RES, ADJ, CARBON 100K	
RV361	1-241-076-11	RES, ADJ, CARBON 1K	
RV401	1-241-079-11	RES, ADJ, CARBON 4.7K (B)	
RV402	1-237-521-21	RES, ADJ, CARBON 100K (B)	
RV450	1-241-075-11	RES, ADJ, CARBON 470 (B, VC)	
		< TRANSFORMER >	
T302	1-409-467-11	COIL (TRAP 7.8K)	
T450	1-409-467-11	COIL (TRAP 7.8K) (B, VC)	
		< VIBRATOR >	
X301	1-577-651-11	VIBRATOR, CRYSTAL	

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Ref. No.	Part No.	Description	Remarks
*	A-6755-622-A	VP-33 BOARD, COMPLETE (VC) ***************************	
		(Ref. No. 9000 Series.)	
		< CAPACITOR >	
C651	1-163-121-00	CERAMIC CHIP 150PF 5% 50V (VC)	
C652	1-163-989-11	CERAMIC CHIP 0.033uF 10% 25V (VC)	
C653	1-163-035-00	CERAMIC CHIP 0.047uF 50V (VC)	
C654	1-163-038-00	CERAMIC CHIP 0.1uF 25V (VC)	
C655	1-163-035-00	CERAMIC CHIP 0.047uF 50V (VC)	
C658	1-126-157-11	ELECT 10uF 20% 16V (VC)	
		< CONNECTOR >	
CN650	1-573-824-11	CONNECTOR, BOARD TO BOARD 10P (VC)	
		< DIODE >	
D651	8-719-104-34	DIODE 1S2836 (VC)	
		< IC >	
IC651	8-759-030-60	IC SDA5642 (VC)	
IC652	8-759-147-30	IC uPD75004GB-VSX182 (VC)	
		< COIL >	
L651	1-410-509-11	INDUCTOR 10uH (VC)	
L652	1-410-521-11	INDUCTOR 100uH (VC)	
		< RESISTOR >	
R651	1-216-057-00	METAL CHIP 2.2K 5% 1/10W (VC)	
R652	1-216-121-00	METAL CHIP 1M 5% 1/10W (VC)	
R653	1-216-073-00	METAL CHIP 10K 5% 1/10W (VC)	
R654	1-216-097-00	METAL CHIP 100K 5% 1/10W (VC)	
R655	1-216-119-00	METAL CHIP 820K 5% 1/10W (VC)	
R656	1-216-025-00	METAL CHIP 100 5% 1/10W (VC)	
R657	1-216-119-00	METAL CHIP 820K 5% 1/10W (VC)	
R658	1-216-067-00	METAL CHIP 5.6K 5% 1/10W (VC)	
R659	1-216-073-00	METAL CHIP 10K 5% 1/10W (VC)	
R660	1-216-073-00	METAL CHIP 10K 5% 1/10W (VC)	
R661	1-216-073-00	METAL CHIP 10K 5% 1/10W (VC)	
R662	1-216-073-00	METAL CHIP 10K 5% 1/10W (VC)	
R663	1-216-101-00	METAL CHIP 150K 5% 1/10W (VC)	
Q651	8-729-421-19	TRANSISTOR UN2213 (VC)	
		< VIBRATOR >	
X651	1-577-291-11	OSCILLATOR, CERAMIC(WITH C) (4.19MHz) (VC)	

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Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MISCELLANEOUS
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Ref. No.	Part No.	Description	Remarks
1	1-466-749-31	SWITCH BLOCK, CONTROL (AEP, NC)	
1	1-466-749-41	SWITCH BLOCK, CONTROL (VC)	
1	1-466-749-71	SWITCH BLOCK, CONTROL (B)	
15	1-693-178-21	REMOTE COMMANDER (RMT-V127A)	
⚠66	1-413-756-11	POWER BLOCK (SR-425) (AEP, B, NC)	
⚠66	1-413-758-11	POWER BLOCK (SR-427) (VC)	
70	1-696-439-11	WIRE, FLAT TYPE (10 CORE)	
71	1-696-440-11	WIRE, FLAT TYPE (16 CORE)	
124	1-696-438-11	WIRE, FLAT TYPE (13 CORE) (B, VC)	
Y 260	1-543-647-11	HEAD, FE	
287	1-550-786-11	DRUM ASSY (DZH-52A) (B)	
287	1-550-786-21	DRUM ASSY (DZH-52A) (AEP, NC, VC)	
290	1-550-536-11	DRUM ASSY, ROTARY UPPER (DZR-17)	
306	1-692-062-11	SWITCH, ROTARY	
336	8-835-489-01	MOTOR, DC U-26K	
Y D001	8-719-985-00	DIODE GL451VS1	
Y Q001	8-729-926-31	TRANSISTOR PT483F1S	
Y Q002	8-729-926-31	TRANSISTOR PT483F1S	

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ACCESSORIES & PACKING MATERIALS
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Ref. No.	Part No.	Description	Remarks
	1-551-540-11	CABLE ASSY (B)	
⚠	1-574-056-11	CORD, POWER (VC)	
⚠	1-574-131-21	CORD, POWER SUPPLY (AEP, NC)	
⚠	1-575-131-11	CORD, POWER (B)	
⚠	1-575-334-11	CORD (WITH CONNECTOR)	
⚠	1-696-593-11	CORD, CONNECTION (PAL) (AEP, NC, VC)	
	3-695-308-01	DRIVER, VOLUME	
*	3-738-213-01	CASE, ACCESSORY (B)	
	3-755-479-41	MANUAL, INSTRUCTION (DUTCH, ITALIAN) (AEP)	
	3-755-479-51	MANUAL, INSTRUCTION (FRENCH, GERMANY, ITALIAN) (VC)	
	3-755-479-61	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE, DANISH) (NC)	
	3-755-479-71	MANUAL, INSTRUCTION (DUTCH, FRENCH, GERMAN) (NC)	
	3-755-479-81	MANUAL, INSTRUCTION (SPANISH) (AEP)	
	3-756-072-11	MANUAL, INSTRUCTION (FRENCH) (B)	
*	3-948-333-02	CUSHION (UPPER) (AEP, NC, VC)	
*	3-948-334-01	CUSHION (LOWER) (AEP, NC, VC)	
*	3-949-049-01	INDIVIDUAL CARTON (AEP, NC, VC)	
*	3-951-357-01	CUSHION (UPPER) (B)	
*	3-951-358-01	CUSHION (LOWER) (B)	
*	3-951-359-01	INDIVIDUAL CARTON (B)	

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HARDWARE LIST

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Ref. No.	Part No.	Description	Remarks
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
#2	7-685-648-79	SCREW +BVTP 3X12 TYPE2	
#3	7-682-547-04	SCREW +BVTT 3X6 (S)	
#4	7-621-255-25	SCREW +PTT 2X4 (S)	
#5	7-685-650-79	SCREW +BVTP 3X16 TYPE2	
#6	7-621-732-08	SCREW	
#7	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#8	7-682-548-04	SCREW +P 3X8	
#9	7-682-546-04	SCREW +P 3X5	
#10	7-628-254-00	SCREW +PS 2.6X5	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 7
ELECTRICAL ADJUSTMENTS

During the adjustment, see the Parts Arrangement Diagram relevant to the adjustment on page 188.

7-1. PRE-ADJUSTMENT PREPARATIONS

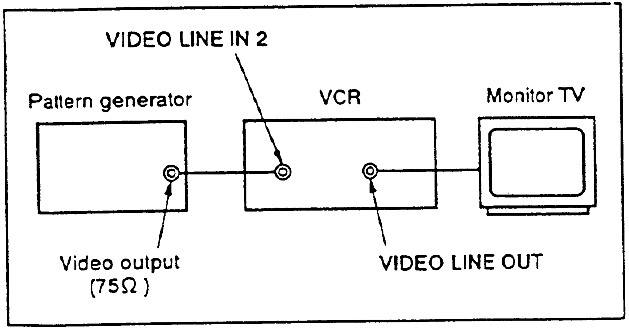
Necessary items and indications for total adjustment of electric circuit of this machine will be described in this chapter.

7-1-1. Instruments to be Used

1) Color TV
2) Oscilloscope 1 or 2 phenomena, band more than 15 MHz, delay mode, as provided.
3) Frequency counter (min, 8 digits)
4) PAL pattern generator
5) SECAM pattern generator (SLV-815B only)
6) Digital voltmeter
7) Audio level meter
8) Audio generator
9) Attenuator
10) Distortion factor meter
11) Voice multiple signal generator
12) Alignment tape
    Part code: H7099052H (MH-2)
13) HiFi alignment tape

7-1-2. Connection

Unless otherwise specified, connect and adjust the measuring instruments as shown in the following diagram.

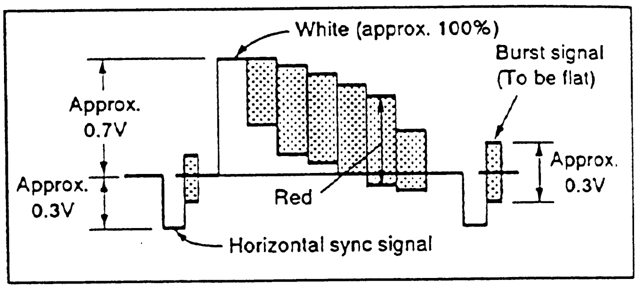


VIDEO LINE IN 2
Pattern generator
VCR
Monitor TV
Video output
(75Ω)
VIDEO LINE OUT

Fig. 7-1.

7-1-3. Setup for Adjustment

In this adjustment, PAL pattern generator is connected with LINE 2 input signal terminal.When check to tuner, connected AERIAL terminal. Check that the amplitudes of video signal SYNC signal, of picture portions, and of burst signals are flat at approximately 0.3, 0.7 and 0.3V, respectively, and that the level ratio of the burst signal and "red" signal are 0.30:0.66. Fig. 7-2. shows video signals (color bars) used in adjusting the video section.



White (approx. 100%)
Burst signal
(To be flat)
Approx.
0.7V
Approx.
0.3V
Red
Approx.
0.3V
Horizontal sync signal

Fig. 7-2.

7-1-4. Alignment Tape (MH-2)

	Time	Video signal	Audio signal
1	10 min	Stair-step	6 kHz
2	5 min	———	3 kHz
3	10 min	Color bar	1 kHz
4	3 min	RF sweep	———

Table 7-1.

7-1-5. Specified I/O Level and Impedance

Input/output terminal

Video inputs	LINE IN: phono jacks EURO-AV: 21-pin (Pin ⑳) 1 Vp-p, 75Ω, unbalanced, sync negative
Audio inputs	LINE IN: phono jacks 47 kΩ, –7.5 dBs (0 dBs=0.775 Vrms) EURO-AV: 21-pin (Pin ② and ⑥) More than 10 kΩ, –4 dBs
Video outputs	LINE OUT: phono jack EURO-AV: 21-pin (Pin ⑲) 1 Vp-p, 75Ω, unbalanced sync negative
Audio outputs	LINE OUT: phono jack –7.5 dBs at load impedance 47 kΩ Output impedance: less than 10 kΩ EURO-AV: 21-pin (Pins ① and ③) Output impedance: less than 1 kΩ –4 dBs with 10 kΩ load

7-1-6. Operating Method When the Front Panel Removed

When adjust with the front panel (SW BLOCK, JOG/SHUTTLE, TK-17 board and TK-18 board) removed, connect the resisters as shown below and operate with the remote commander.

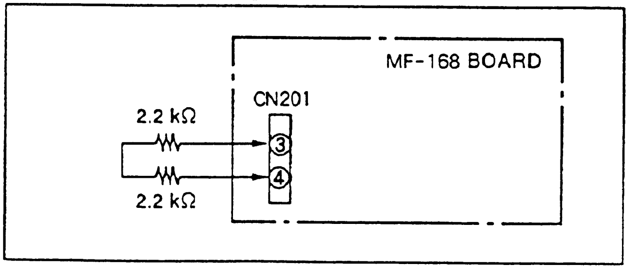
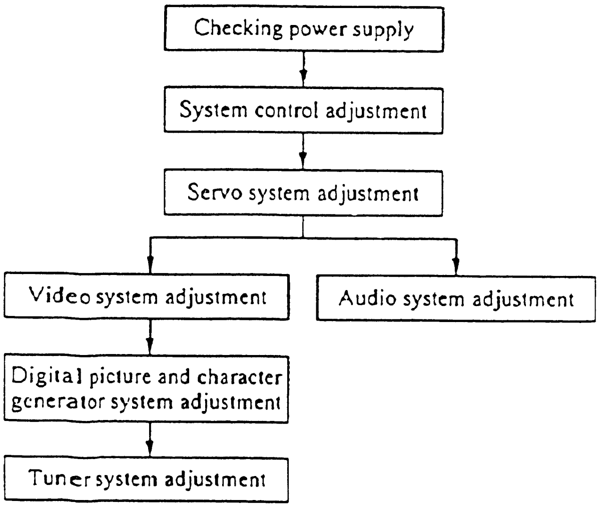

MF-168 BOARD
CN201
2.2 kΩ
③
④
2.2 kΩ

Fig. 7-3.

7-1-7. Adjusting Sequence

Make the electrical adjustment in the following sequence.


Checking power supply
System control adjustment
Servo system adjustment
Video system adjustment
Audio system adjustment
Digital picture and character generator system adjustment
Tuner system adjustment

7-2. POWER SUPPLY CHECK (POWER BLOCK)

Mode	E-E
Measuring instrument	Digital voltmeter
UNSW 6V check	
Measurement point	Pin⑤of CN1
Specified value	6 ± 0.25Vdc
UNSW – 30V check	
Measurement point	Pin⑩of CN2
Specified value	– 30.0 ± 2.5Vdc
UNSW 6V check	
Measurement point	Pin⑪of CN2
Specified value	6.0 ± 0.6Vdc
SW 5V check	
Measurement point	Pin⑥of CN1
Specified value	$5.00 \pm^{0.15}_{0.10}$Vdc
SW 9V check	
Measurement point	Pin④of CN1
Specified value	9.0 ± 0.3Vdc
UNSW 12V check	
Measurement point	Pin③of CN1
Specified value	12.0 ± 0.1Vdc
MTR 12V check	
Measurement point	Pin①of CN2
Specified value	12.0 ± 0.3Vdc
UNSW 35V check	
Measurement point	Pin①of CN1
Specified value	35V ± 3.0Vdc

Checking method:

1) Confirm that each voltage meets its specified value.

POWER BLOCK (Conductor side)

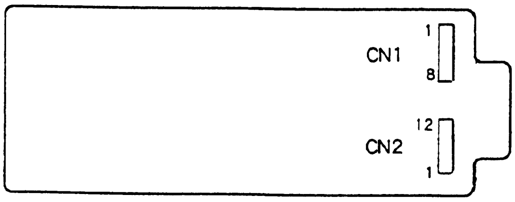

CN1
1
8
CN2
12
1

Fig. 7-4.

7-3. SYSTEM CONTROL ADJUSTMENT

7-3-1. Clock Adjustment (MF-167 BOARD)

Measurement point	Pin⑧of IC601
Measuring Instrument	Interval counter
Adjusting Element	CV601
Specified Value	0.1249995 ± 0.0000005 sec

Connection:

1) Make the circuit below and supply the generated voltage to IC601 pin④.

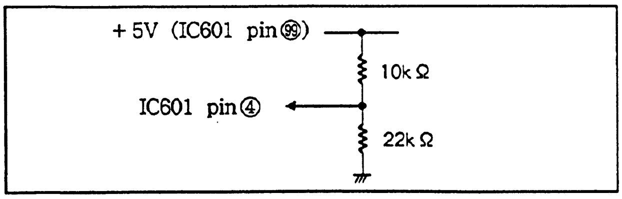

+5V (IC601 pin(99))
10kΩ
IC601 pin④
22kΩ

Fig. 7-5-1.

Adjusting method:

1) Pass a 9-state binary counter through Pin ⑧ of IC601 to divide the 4096 Hz frequency nine times and transform to 8 Hz. Measure the cycle.
2) Adjust CV601 so that an 8 Hz cycle equals 0.1249995 ± 0.0000005 sec.

Note: Do not adjust CV601 except when replacing microcomputers.

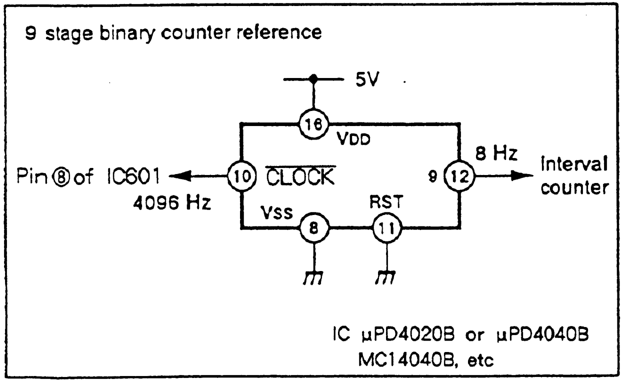

9 stage binary counter reference
5V
16
VDD
Pin⑧of IC601
4096 Hz
10
CLOCK
Vss
8
RST
11
9
12
8 Hz
Interval counter
IC μPD4020B or μPD4040B
MC14040B, etc

Fig. 7-5-2.

7-4. SERVO SYSTEM ADJUSTMENT

7-4-1. Switching Position Adjustment (MA-140 Board)

Mode	PB
Signal	Alignment tape: SP stair-step section
Measurement point	CH1 : VIDEO OUT (LINE OUT) CH2:Pin②of CN919(RF SWP)/MA-140
Measuring Instrument	Oscilloscope
Adjusting Element	RV401
Specified Value	6.5 ± 0.5H (416 ± 32 μsec)

Adjusting method:

1) Once set to STOP mode, then to PB mode.
2) Check that the switching position is 6.5 ± 0.5H. (416 ± 32 μsec)
If not meet the specified value, turn RV401 and repeat steps 1) to 2).

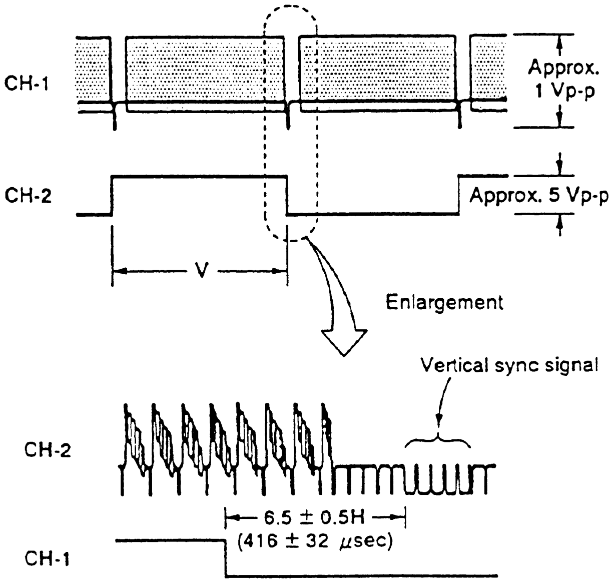

CH-1
Approx. 1 Vp-p
CH-2
Approx. 5 Vp-p
V
Enlargement
Vertical sync signal
CH-2
6.5 ± 0.5H
(416 ± 32 μsec)
CH-1

Fig. 7-6.

7-5. VIDEO SYSTEM ADJUSTMENT

Adjust the video system in the following sequence as a rule. The color video signal supplied from the pattern generator is used as a video input signal for video system adjustment in the recording mode.
Make sure that sync and color burst signals meet requirements specified at setup of adjustment shown in Fig. 7-2.

[Adjusting sequence]

7-5-1. Playback Y Signal Level Adjustment
7-5-2. Y Signal NR Level Adjustment
7-5-3. Sync AGC Adjustment
7-5-4. Sync Tip Carrier Set and Deviation Adjustment
7-5-5. White Clip, Dark Clip Adjustment
7-5-6. Recording Y Signal Level Adjustment
7-5-7. Recording Chroma Level Adjustment
7-5-8. PAL JOG AFC Adjustment
7-5-9. 0.5H CCD Level Adjustment
7-5-10. SECAM Discrimination Adjustment

7-5-1. Playback Y Signal Level Adjustment (YC-124 Board)

Mode	PB
Signal	Alignment tape: SP color bar section
Measurement Point	VIDEO LINE OUT terminal
Measuring Instrument	Oscilloscope
Adjusting Element	RV108
Specified Value	1.00 ± 0.05 Vp-p

Note: 1) Make this adjustment with the EDIT ON/OFF button set to off.
2) VIDEO LINE OUT terminal must be terminated at 75Ω ± 1%.

Adjusting method:
1) With RV108, adjust the VIDEO signal level to 1.00 ± 0.05 Vp-p.

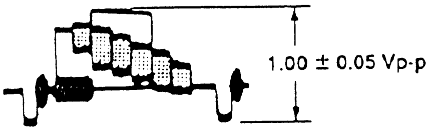


Fig. 7-7.

7-5-2. Y Signal NR Level Adjustment (YC-124 Board)

Mode	PB
Signal	Alignment tape: SP color bar section
Measurement Point	Pin⑩of IC101
Measuring Instrument	Oscilloscope
Adjusting Element	RV107
Specified Value	Less than 30mVp-p or minimum

Adjusting method:
1) Adjust to eliminate level differences for each H step with RV107.

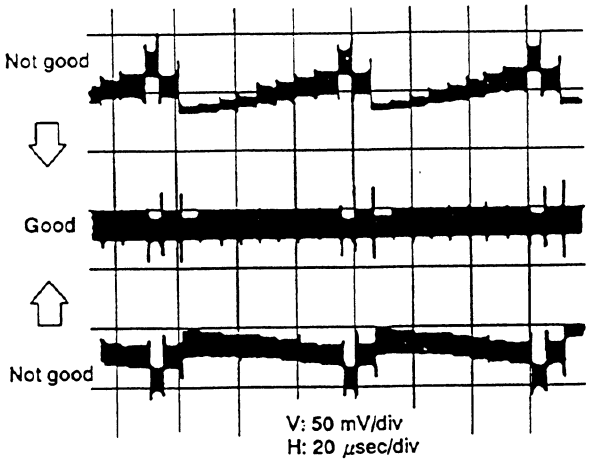


Fig. 7-8.

7-5-3. Sync AGC Adjustment (YC-124 Board)

Mode	E-E
Signal	Color bar
Measurement Point	VIDEO LINE OUT terminal
Measuring Instrument	Oscilloscope
Adjusting Element	RV101
Specified Value	1.00 ± 0.05 Vp-p

Note: VIDEO LINE OUT terminal must be terminates at 75Ω .

Adjusting method:
1) With RV101, adjust the VIDEO signal level to 1.00 ± 0.05 Vp-p.

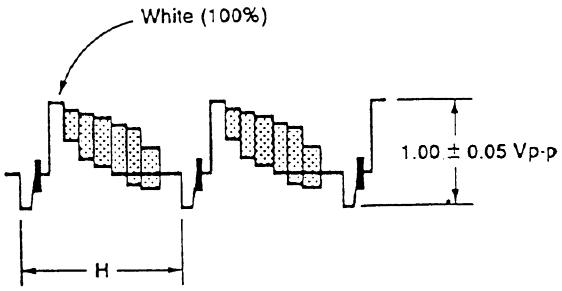


Fig. 7-9. SYNC AGC adjustment

7-5-4. Sync Tip Carrier Set and Deviation Adjustment (YC-124 Board)

Before starting the adjustment, be sure to check that recording Y signal level adjustment has been completed.

Sync tip carrier set	
Mode	E-E
Signal	No signal (Note 2)
Measurement Point	Pin㉔of IC101
Measuring Instrument	Frequency counter
Adjusting Element	RV103
Speified Value	3.80 ± 0.05MHz
Deviation adjustment	
Mode	REC and PB
Signal	Colour bars
Measurement Point	VIDEO LINE OUT terminal
Measuring Instrument	Osilloscope
Adjusting Element	RV102
Speified Value	1.00 ± 0.05Vp-p

Note 1) VIDEO LINE OUT terminal must be terminated at 75Ω.

2) To make no signal input, insert a shorting plug into VIDEO LINE IN 2 terminal.

Adjusting method:

1) Make a no signal state and select the E-E made.
2) Connect the frequency counter to the Pin ㉔ of IC101 and adjust to 3.80 ± 0.05MHz with RV103.
3) Input the color bar signal to make recording.
4) Playback the recorded tape portion and check that the playback Y signal level is 1.00 ± 0.05 Vp-p.

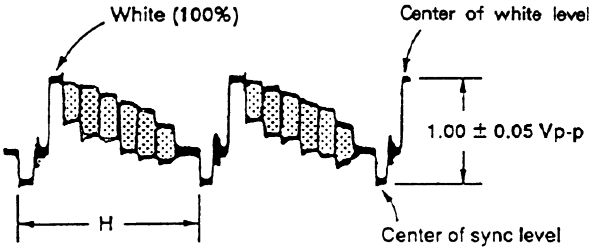


Fig. 7-10. Deviation adjustment

5) When the specified value is not met, input the color bar signal to select the E-E mode. Adjust RV102 to correct a playback Y signal level error, and then, repeat the steps 1) through 4) above.

7-5-5. White Clip, Dark Clip Adjustments (YC-124 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin ⑳ of IC101
Measuring Instument	Oscilloscope
Adjusting Element	White clip : RV105 Dark clip : RV104
Specified Value	White clip : 180 ± 10% Dark clip : 40 ± 10%

Adjusting method:

1) With RV105, adjust the white clip level to 180 ± 10% of the white level (100%)
2) With RV104, adjust the dark clip level to 40 ± 10% of the white level (100%)

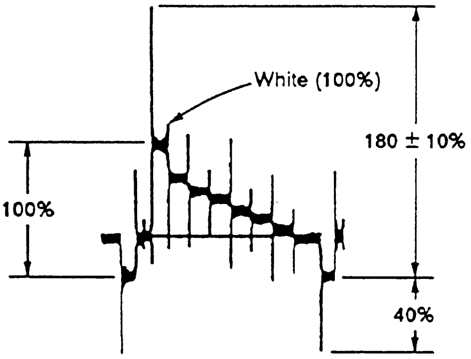


Fig. 7-11.

7-5-6. Recording Y Signal Level Adjustment (YC-124 Board)

Mode	REC
Signal	No signal
Measurement Point	Pin③of CN301 (YC-124)
Measuring Instument	Oscilloscope
Adjusting Element	RV110 (YC-124 board)
Specified Value	300 ± 10 mV

Adjusting method:

1) With RV110, adjust the Y REC RF signal level to 300 ± 10mV

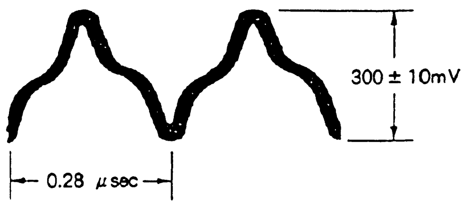


Fig. 7-12.

7-5-7. Recording Chroma Level Adjustment (YC-124 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin⑧of CN301
Measuring Instument	Oscilloscope
Adjusting Element	RV301
Specified Value	120 ± 10 mVp-p

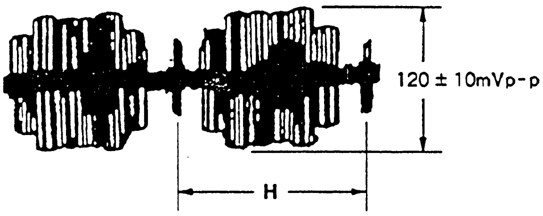


Fig. 7-13.

7-5-8. PAL JOG AFC Adjustment (YC-124 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin⑲of IC360
Measuring Instument	Digital voltmeter
Adjusting Element	RV360
Specified Value	2.65 ± 0.05 Vdc

Adjusting method :

1) Adjust RV360 so that the voltage at Pin ⑲ of IC360 become 2.65 ± 0.05Vde.
   At this time confirm that the cycle of delta wave at Pin ⑳of IC360 is 32 μsec.

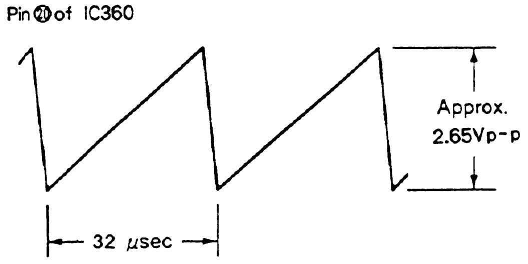


Fig. 7-14.

7-5-9. 0.5H CCD Level Adjustment (YC-124 Board)

Mode	E-E
Signal	Color bar
Measurement Point	Pin①of IC362
Measuring Instument	Oscilloscope
Adjusting Element	RV361
Specified Value	Same signal level with Pin ⑥ of IC362.

Adjusting method :

1) Measure the signal level at Pin⑥of IC362.
   (Approx. 2 Vp-p)
2) Adjust RV361 so that the signal levels at Pins①and⑥ of IC362 become same.

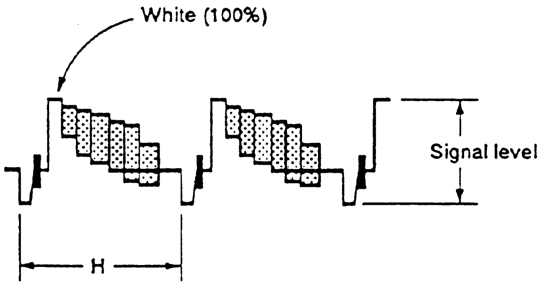


Fig. 7-15.

7-5-10. SECAM Discrimination Adjustment (YC-124 Board) (B Only)

Mode	E-E
Signal	SECAM Color bar
Measurement Point	Pin⑨of IC450
Measuring Instument	Oscilloscope
Adjusting Element	RV450
Specified Value	4.5 ± 0.1 Vp-p

Adjusting method :

1) Adjust RV450 so that the amplitude of 1/2 fH waveform becomes 4.5 ± 0.1 Vp-p.

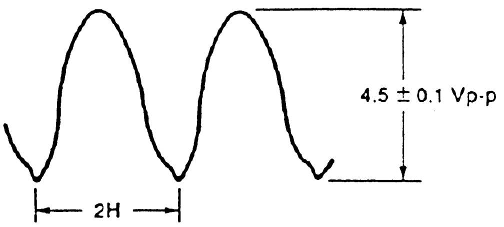


Fig. 7-16.

7-5-11. SECAM Sync. Gate Timing Adjustment (YC-124 Board)

Mode	E-E
Signal	SECAM Colour bars
Measurement Point	CH1 : VIDEO OUTPUT CH2 : CN301 Pin⑧ (YC-124 board)
Measuring Instrument	Osilloscope
Adjusting Element	RV402
Speified Value	T2 = 0 ± 0.3 μsec

Adjusting method :

1) Adjust with RV402 so that the color bar signal on VIDEO OUTPUT terminal becomes to the specified value.

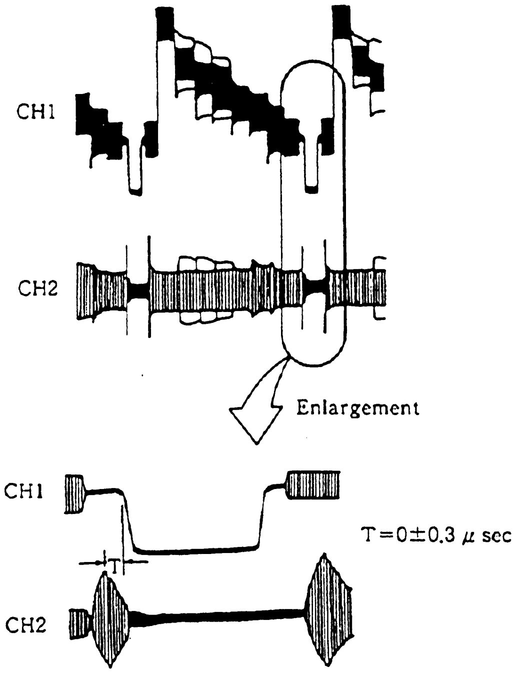


Fig. 7-17.

7-5-12. SECAM Bell Filter Adjustment (YC-124 Board)

Mode	PB
Signal	SECAM Colour bars
Measurement Point	IC401㉕
Measuring Instrument	Osilloscope
Adjusting Element	FL402
Speified Value	Same level of colour bars

Adjusting method :

1) Adjust FL402 so that levels of colour bars become the same.

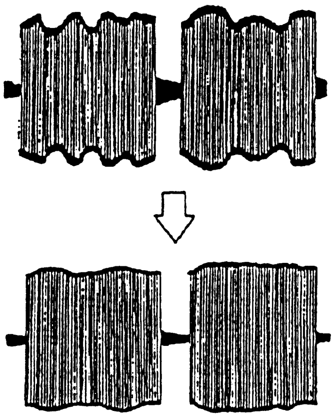


Fig. 7-18.

7-5-13. SECAM Recording Chroma Level Adjustment (YC-124 Board)

Mode	E-E
Signal	SECAM Colour bars
Measurement Point	CN301 ⑧
Measuring Instrument	Osilloscope
Adjusting Element	RV401
Speified Value	80 ± 10 mVp-p

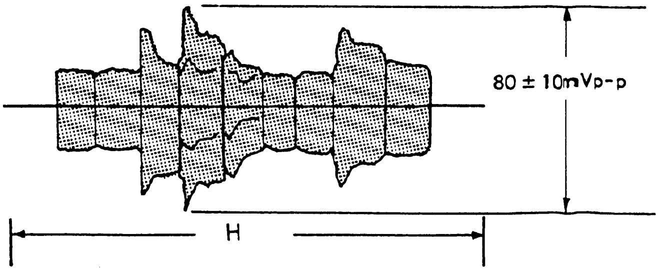


Fig. 7-19.

7-6. CHARACTER GENERATOR SYSTEM ADJUSTMENTS

- Connect the monitor TV to EURO-AV connector (Pin ⑲ of CNJ902 on MA-140 board), then perform the adjustment.

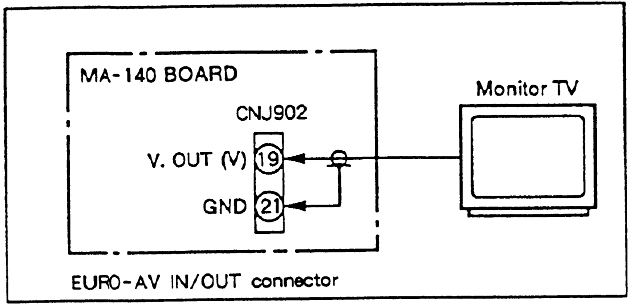


Fig. 7-20.

7-6-1. Character Generator Clock Check (CG-15 Board)

Mode	E-E
Signal	No signal
Measurement Point	Pin㉘of IC602
Measuring Instument	Frequency counter
Specified Value	17.734476MHz ± 100Hz

Note: Attach 10 kΩ register to tip of the probe.

Checking method:

1) Confirm that the clock oscillation frequency is 17.734476 MHz ± 100 Hz.

7-6-2. AFC Adjustment (CG-15 Board)

Mode	E-E
Signal	No signal
Measurement Point	Pin⑧of IC603
Measuring Instument	Oscilloscope
Adjusting Element	RV601
Specified Value	15625 ± 50Hz

Connection :

1) Connect Pins①and⑨of IC603 with 1kΩ resistance.

Adjusting method :

1) Adjust RV601 so that the oscillation frequency is 15625 ± 50Hz.

7-6-3. Character Position Adjustment (CG-15 Board)

Mode	E-E (EDIT MONITOR)
Signal	Color bar
Measurement Point	EURO AV IN/OUT connector
Measuring Instrument	Monitor TV
Adjusting Element	CV601
Specified Value	A=B

Note: Perform this adjustment after "Write Clock Adjustment".

Adjusting method :

1) Adjust CV601 so that the arrow mark is positioned at the center between the child pictures.

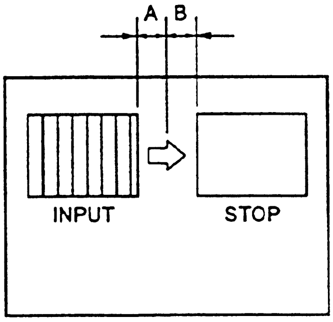


Fig. 7-25.

7-7. AUDIO SYSTEM ADJUSTMENTS

- Adjust the audio system in the LP mode, unless otherwise specified.
  Use the alignment tape.
- Adjust both Lch and Rch.
- Audio system adjustments consist of section 7-7-1. Hi-Fi Audio adjustment and 7-7-2. Normal Audio Adjustment.

[Connection]

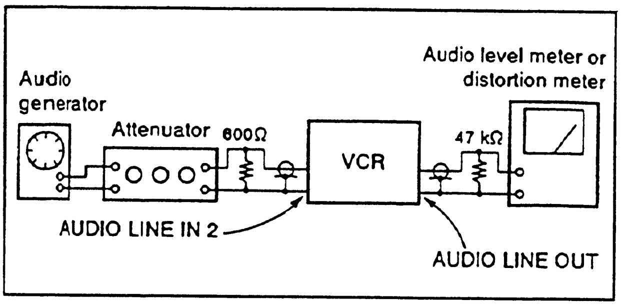


Fig. 7-26.

7-7-1. Hi-Fi Audio System Adjustment

- Set Switches and knobs to the following positions to make adjustment unless otherwise specified.
  INPUT SELECT switch···· LINE 2
  REC LEVEL knob··········Set to −21 dBs.

- When the tuner block is obstructive for adjustment, remove it.

[Adjusting sequence]

1. NTSC VCO fo adjustment
2. PAL VCO fo adjustment
3. NTSC BPF fo adjustment
4. PAL BPF fo adjustment
5. AF Switching Position adjustment
6. Hi-Fi/Normal Detect adjustment
7. Playback Level adjustment
8. Record VR (Left channel) Control adjustment
9. Record VR (Right channel) Control adjustment

1. NTSC VCO f_0 adjustment (HF-26 board)

Mode	Recording, NTSC mode
Signal	No signal (HF-26 CN202 Pin ②: L)
Measuring instrument	Frequency counter
LEFT channel (1.3 MHz) Adjustment	
Measurement point	IC201 Pin (79)/HF-26
Adjusting element	RV202
Specified value	1.300 MHz ± 1 KHZ
RIGHT channel (1.7 MHz) Adjustment	
Measurement point	IC201 Pin (69)/HF-26
Adjusting element	RV205
Specified value	1.700 MHz ± 1 kHz

Note : Connect the frequency counter through a probe of high input impedance (more than 10 MΩ) and low capacity (10 pF or less).

Checking method :

1) Connect the frequency counter to each measurement point.
2) Confirm that each frequency meet its specified value.

2. PAL VCO f_0 adjustment (HF-26 board)

Mode	Recording, PAL mode
Signal	No signal (HF-26 CN202 Pin ②: H)
Measuring instrument	Frequency counter
LEFT channel (1.4 MHz) Adjustment	
Measurement point	IC201, Pin (79)/HF-26
Adjusting element	RV207
Specified value	1.400 MHz ± 1 kHz
RIGHT channel (1.8 MHz) Adjustment	
Measurement point	IC201, Pin (69)
Adjusting element	RV209
Specified value	1.800 MHz ± 1 kHz

Note : Connect the frequency counter through a probe of high input impedance (more than 10 MΩ) and low capacity (10 pF or less).

Checking method :

1) Connect the frequency counter to each measurement point.
2) Confirm that each frequency meet its specified value.

3. NTSC BPF f_0 adjustment (HF-26 board)

Mode	NTSC, PB mode
Signal	1.720 MHz sine wave
Measuring instrument	Oscilloscope
Measurement point	HF-26, IC201, Pin (78)
Adjusting element	RV204
Specified value	Minimum amplitude as shown

Adjusting method :

1) Set the NTSC PB switch to ON.
2) Input the sine wave signal of 1.720 MHz, 70 mV to CN202 Pin ⑨ from signal generator. (no modulated signal)
3) Adjust RV204 for the minimum amplitude.

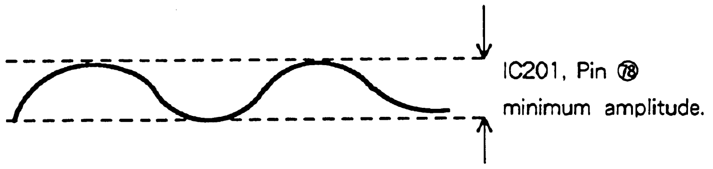


Fig. 7-27.

4. PAL BPF f_0 adjustment (HF-26 board)

Mode	PAL, PB mode
Signal	1.840 MHz sine wave
Measuring instrument	Oscilloscope
Measurement point	HF-26, IC201, Pin (78)
Adjusting element	RV208
Specified value	Minimum amplitude as shown

Adjusting method :

1) Input the sine wave signal of 1.840 MHz, 70 mV CN202 Pin ⑨ from signal generator. (no modulated signal)
2) Adjust RV208 for the minimum amplitude.

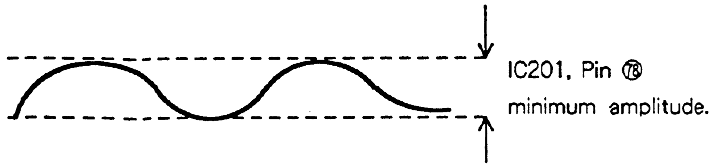


Fig. 7-28.

5. AF Switching Position adjustment (MA-140 board)

Mode	PB
Signal	Alignment tape (MH-2)
Measuring instrument	Oscilloscope
Measurement point	MA-140, CN901, Pin ⑥
Adjusting element	RV400
Specified value	Minimum amplitude

Adjusting method :

1) Playback the alignment tape (MH-2).
2) Press MANUAL of TRACKING button. Press both [+] and [-] keys of TRACKING simultaneously to obtain the center position of TRACKING.
3) Trigger oscilloscope by RP-147, CN803 Pin ⑤ (RF SW'G pulse).
4) Adjust RV400 to minimize A.

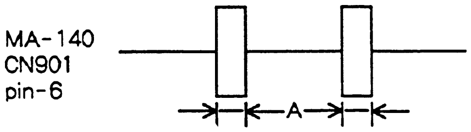


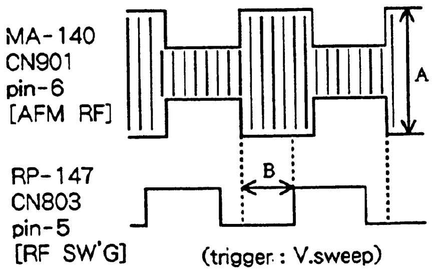
Fig. 7-29.

6. Hi-Fi/Normal Detect adjustment (MA-140 board)

Mode	PB
Signal	Alignment tape (HiFi 400 Hz)
Measuring instrument	Oscilloscope
Measurement point	MA-140, CN901, Pin ⑥
Adjusting element	RV201
Specified value	300 mV ± 10 mVp-p

Adjusting method :

1) Press MANUAL of TRACKING button. Obtain the maximum AFM RF level by adjusting TRACKING control.
2) Connect oscilloscope to MA-140, CN901 Pin ⑥, and is triggered by RP-147, CN803 Pin⑤ (RF SW'G pulse).
3) Adjust RV201/MA-140 for 300 mV ± 10 mVp-p, in the side B.



A = 300mV ± 10mV (p-p)

Fig. 7-30.

7. Playback Level adjustment (HF-26 board)

Mode	PB
Signal	Alignment tape (HiFi 400 Hz)
Measurement point	Lch : AUDIO LINE OUT L Rch : AUDIO LINE OUT R
Measuring instrument	Audio level meter
Adjusting element	Lch : RV201 Rch : RV206
Specified value	− 7.5 ± 0.1 dBs

Adjusting method :

1) Adjust a playback level to -7.5 ± 0.1 dBs for both L and R channels with RV201 and RV206 respectively.

8. Record VR (Left channel) Control adjustment (MF-167 board)

Mode	Recording
Signal	No signal
Measuring instrument	Digital voltmeter
Measurement point	MF-167, CN601, Pin ⑯
Adjusting element	RV603
Specified value	(voltage at CN601, Pin ⑫) × ½ ± 0.05 V

Adjusting method :

1) Set the RECORD VR (RV601) into the mechanical center [click] position.
2) Adjust RV603 to obtain that Pin ⑯= [voltage at CN601 Pin ⑫= LEVEL VR Vcc] × ½ ± 0.05 V

9. Record VR (Right channel) Control adjustment (MF-167 board)

Mode	Recording
Signal	No signal
Measuring instrument	Digital voltmeter
Measurement point	MF-167, CN601, Pin ⑮
Adjusting element	RV604
Specified value	(voltage at CN601, Pin ⑫) × ½ ± 0.05 V

Adjusting method :

1) Set the RECORD VR (RV602) into the mechanical center [click] position.
2) Adjust RV604 so that Pin ⑮= [voltage at CN601 Pin ⑫ = LEVEL VR Vcc] × ½ ± 0.05 V

7-7-2. Normal Audio System Adjustment

- Make adjustment in the SP mode, unless otherwise specified. Use a normal VHS cassette for an adjustment tape.
- Make adjustment with the switches set to the following positions.
  INPUT SELECT······LINE 2
- Set the AUDIO MONITOR mode to NORMAL on the menu screen.

[Adjusting sequence]

1. ACE head adjustment···See Mechanism Block Adjustment
2. Recording bias adjustment

1. ACE head adjustment

See "Mechanism Block Adjustment".

2. Recording bias adjustment (MA-140 board)

Mode	REC and PB
Signal	333 Hz, − 27.5 dBs 7 kHz, − 27.5 dBs } at AUDIO INPUT, LINE 2
Measuring point	AUDIO LINE OUT L or R
Measuring instrument	Audio level meter
Adjusting element	RV701
Specified value	0 ± 1 dB (1 ± 1dB for B model)

Adjusting method :

1) Supply a signal of 333 Hz, − 27.5 dBs to Audio.
2) Connect the audio level meter to the Audio Line Output.
3) Adjust the attenuator so that the audio input level is − 27.5 dBs.
4) Make recording in the SP mode.
5) Set an audio line input signal to 7 kHz and make recording.
6) Playback a recorded position, and measure output levels at 333 Hz and 7 kHz.
7) Confirm that the 7 kHz playback output levels within a range of the 333 Hz playback output level 0 ± 1 dB. When beyond this range, adjust RV701 and repeat the steps 1) through 7) above. (1 ± 1dB for B model)

7. Playback Level adjustment (HF-26 board)

Mode	PB
Signal	Alignment tape (HiFi 400 Hz)
Measurement point	Lch : AUDIO LINE OUT L Rch : AUDIO LINE OUT R
Measuring instrument	Audio level meter
Adjusting element	Lch : RV201 Rch : RV206
Specified value	− 7.5 ± 0.1 dBs

Adjusting method :

1) Adjust a playback level to -7.5 ± 0.1 dBs for both L and R channels with RV201 and RV206 respectively.

8. Record VR (Left channel) Control adjustment (MF-167 board)

Mode	Recording
Signal	No signal
Measuring instrument	Digital voltmeter
Measurement point	MF-167, CN601, Pin ⑯
Adjusting element	RV603
Specified value	(voltage at CN601, Pin ⑫) × ½ ± 0.05 V

Adjusting method :

1) Set the RECORD VR (RV601) into the mechanical center [click] position.
2) Adjust RV603 to obtain that Pin ⑯= [voltage at CN601 Pin ⑫= LEVEL VR Vcc] × ½ ± 0.05 V

9. Record VR (Right channel) Control adjustment (MF-167 board)

Mode	Recording
Signal	No signal
Measuring instrument	Digital voltmeter
Measurement point	MF-167, CN601, Pin ⑮
Adjusting element	RV604
Specified value	(voltage at CN601, Pin ⑫) × ½ ± 0.05 V

Adjusting method :

1) Set the RECORD VR (RV602) into the mechanical center [click] position.
2) Adjust RV604 so that Pin ⑮= [voltage at CN601 Pin ⑫ = LEVEL VR Vcc] × ½ ± 0.05 V

7-7-2. Normal Audio System Adjustment

- Make adjustment in the SP mode, unless otherwise specified. Use a normal VHS cassette for an adjustment tape.
- Make adjustment with the switches set to the following positions.
  INPUT SELECT……LINE 2
- Set the AUDIO MONITOR mode to NORMAL on the menu screen.

[Adjusting sequence]

1. ACE head adjustment…See Mechanism Block Adjustment
2. Recording bias adjustment

1. ACE head adjustment

See "Mechanism Block Adjustment".

2. Recording bias adjustment (MA-140 board)

Mode	REC and PB
Signal	333 Hz, − 27.5 dBz 7 kHz, − 27.5 dBs at AUDIO INPUT, LINE 2
Measuring point	AUDIO LINE OUT L or R
Measuring instrument	Audio level meter
Adjusting element	RV701
Specified value	0 ± 1 dB (1 ± 1dB for B model)

Adjusting method :

1) Supply a signal of 333 Hz, − 27.5 dBs to Audio.
2) Connect the audio level meter to the Audio Line Output.
3) Adjust the attenuator so that the audio input level is − 27.5 dBs.
4) Make recording in the SP mode.
5) Set an audio line input signal to 7 kHz and make recording.
6) Playback a recorded position, and measure output levels at 333 Hz and 7 kHz.
7) Confirm that the 7 kHz playback output levels within a range of the 333 Hz playback output level 0 ± 1 dB. When beyond this range, adjust RV701 and repeat the steps 1) through 7) above. (1 ± 1dB for B model)

7-8. TUNER SYSTEM ADJUSTMENTS

7-8-1. RF AGC Adjustment (IF501)

Signal	Broadcast TV signal
Adjusting element	VR of IF unit (Fig. 7-31.)

Adjusting method :

1) Adjust the monitor TV to a maximum contrast.
2) Turn the VR to make snow noise visible.
3) Turn the VR in an opposite direction and set it to the point where the snow noise disappears.
4) Receive each channel and confirm that there are no beat picture corruption snow noise due to cross modulation.

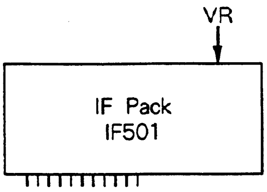


Fig. 7-31.

7-8-2. Receive Separation Adjustment (MA-140 board)

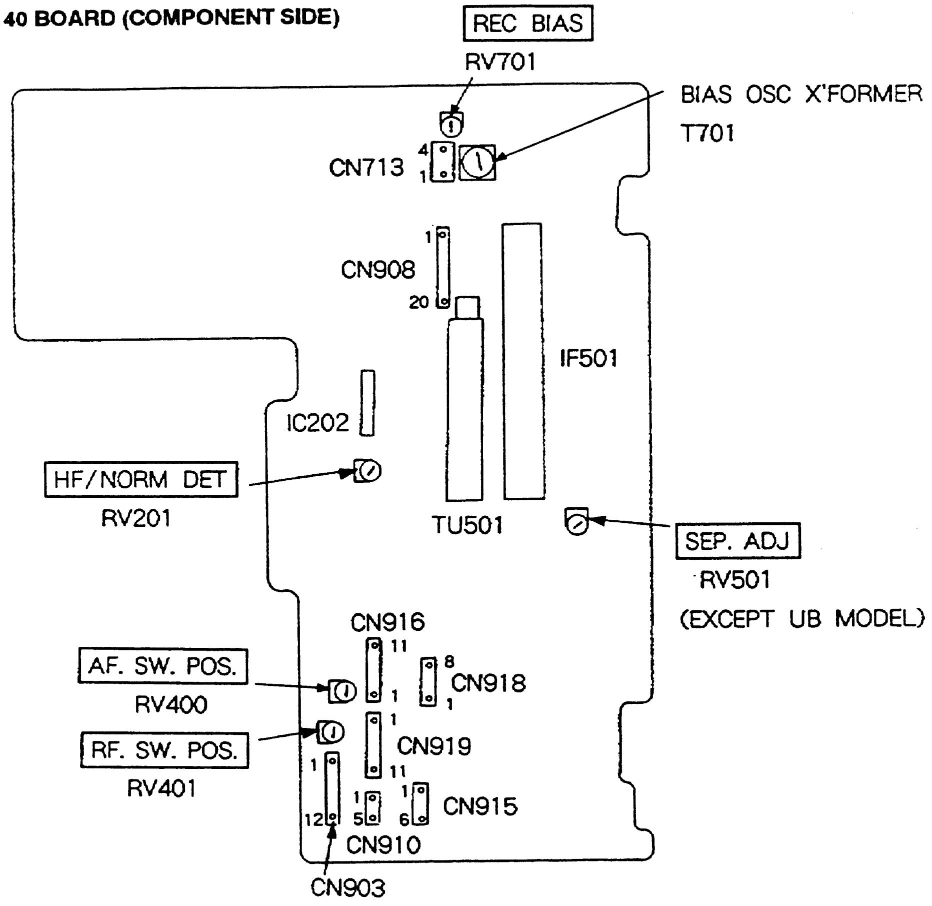
Signal	Stereo Lch : 400 Hz 100 % modulation Rch : No modulation
Connect point	AUDIO LINE OUT R
Measuring instrument	Oscilloscope
Adjusting element	RV501

Adjusting method :

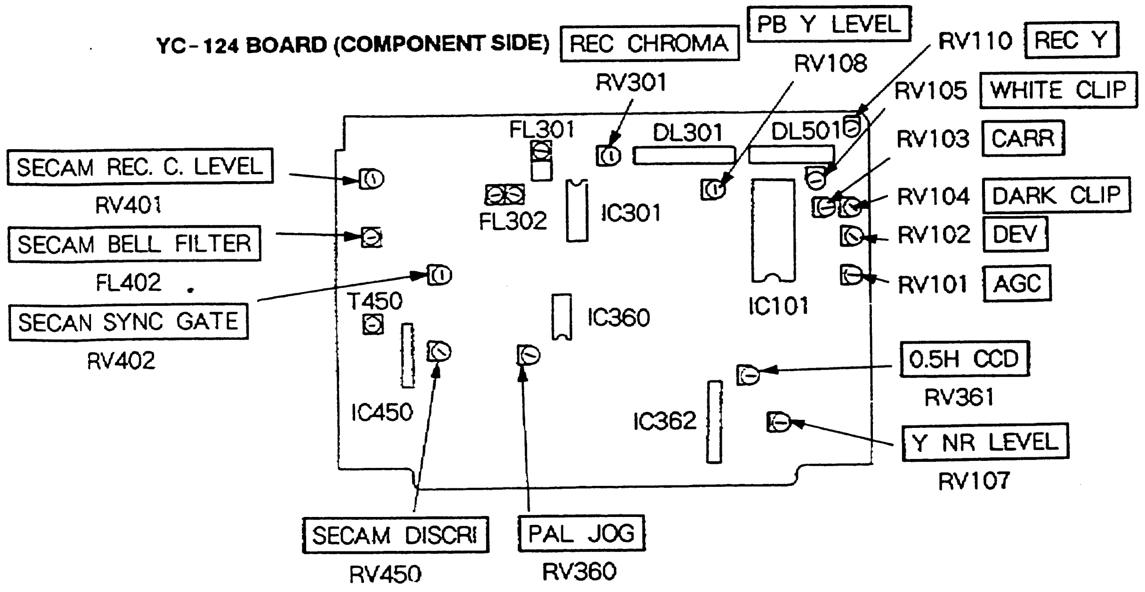
1) Set the sound multiplex signal generator in the Stereo mode, and set only Lch to 400 Hz, 100 % modulation.
2) Connect the oscilloscope to the Rch of Audio Line Output.
3) Adjust RV501 to minimize Rch output.
When this is done, do not fully turn RV501. (The "STEREO" indication must be illuminated).

7-9. ADJUSTMENT PARTS ARRANGEMENT DIAGRAM

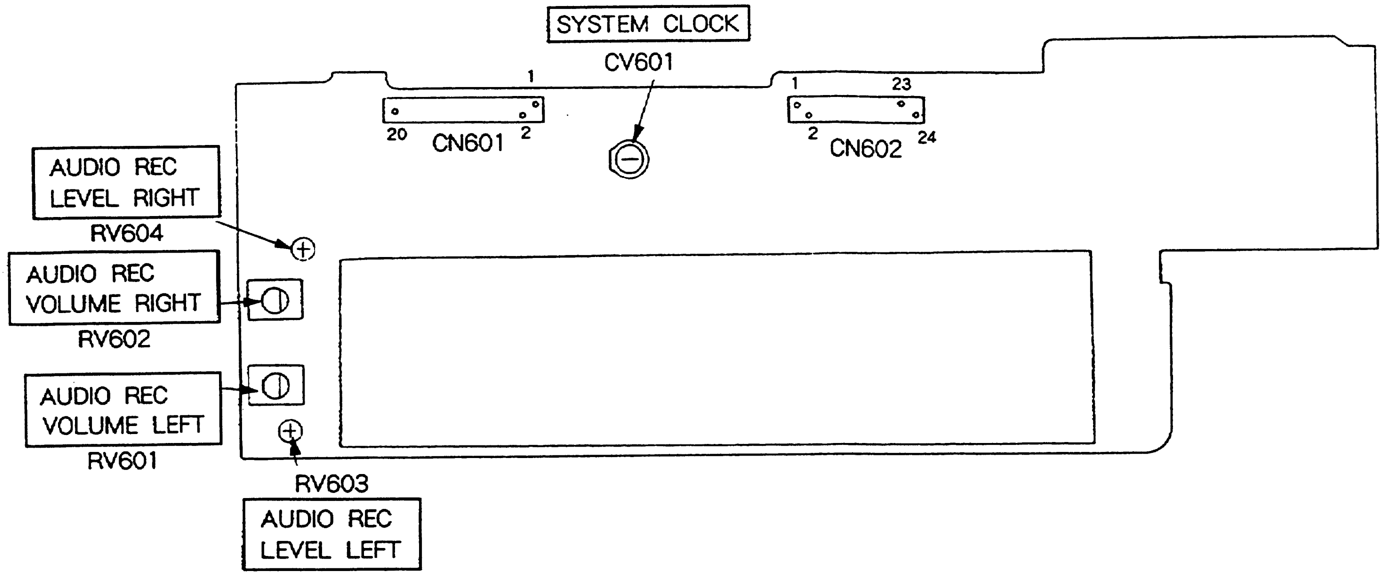
MA-140 BOARD (COMPONENT SIDE)


REC BIAS
RV701
BIAS OSC X'FORMER
T701
CN713
4
1
CN908
1
20
IF501
IC202
HF/NORM DET
RV201
TU501
SEP. ADJ
RV501
(EXCEPT UB MODEL)
CN916
11
1
8
CN918
1
AF. SW. POS.
RV400
RF. SW. POS.
RV401
1
CN919
11
1
12
1
5
1
6
CN915
CN910
CN903

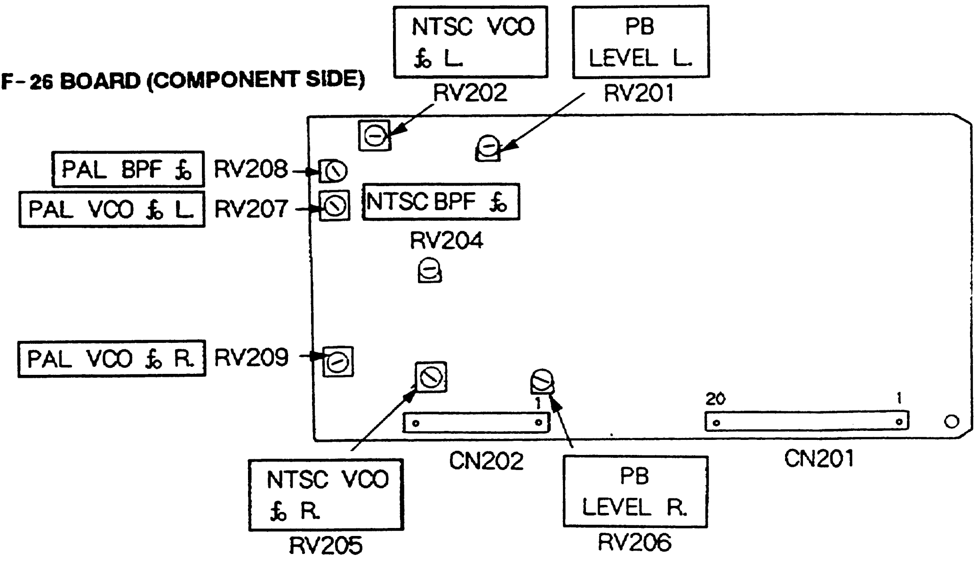
YC-124 BOARD (COMPONENT SIDE)


REC CHROMA
RV301
PB Y LEVEL
RV108
RV110
REC Y
RV105
WHITE CLIP
RV103
CARR
RV104
DARK CLIP
RV102
DEV
RV101
AGC
FL301
DL301
DL501
FL302
IC301
IC101
IC360
SECAM REC. C. LEVEL
RV401
SECAM BELL FILTER
FL402
SECAN SYNC GATE
RV402
T450
IC450
IC362
0.5H CCD
RV361
Y NR LEVEL
RV107
SECAM DISCRI
RV450
PAL JOG
RV360

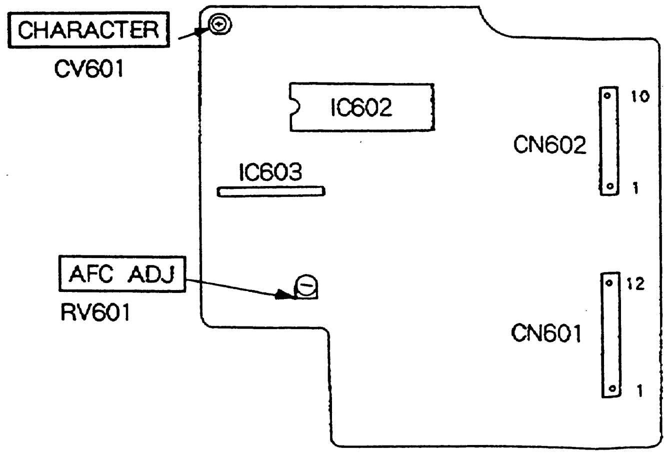
MF-167 BOARD (COMPONENT SIDE)


SYSTEM CLOCK
CV601
1
20
CN601
2
1
23
2
CN602
24
AUDIO REC
LEVEL RIGHT
RV604
AUDIO REC
VOLUME RIGHT
RV602
AUDIO REC
VOLUME LEFT
RV601
RV603
AUDIO REC
LEVEL LEFT

HF-26 BOARD (COMPONENT SIDE)


NTSC VCO
f_0 L
RV202
PB
LEVEL L
RV201
PAL BPF f_0
RV208
PAL VCO f_0 L
RV207
NTSC BPF f_0
RV204
PAL VCO f_0 R
RV209
20
1
1
CN202
CN201
NTSC VCO
f_0 R
RV205
PB
LEVEL R
RV206

CG-15 BOARD(COMPONENT SIDE)

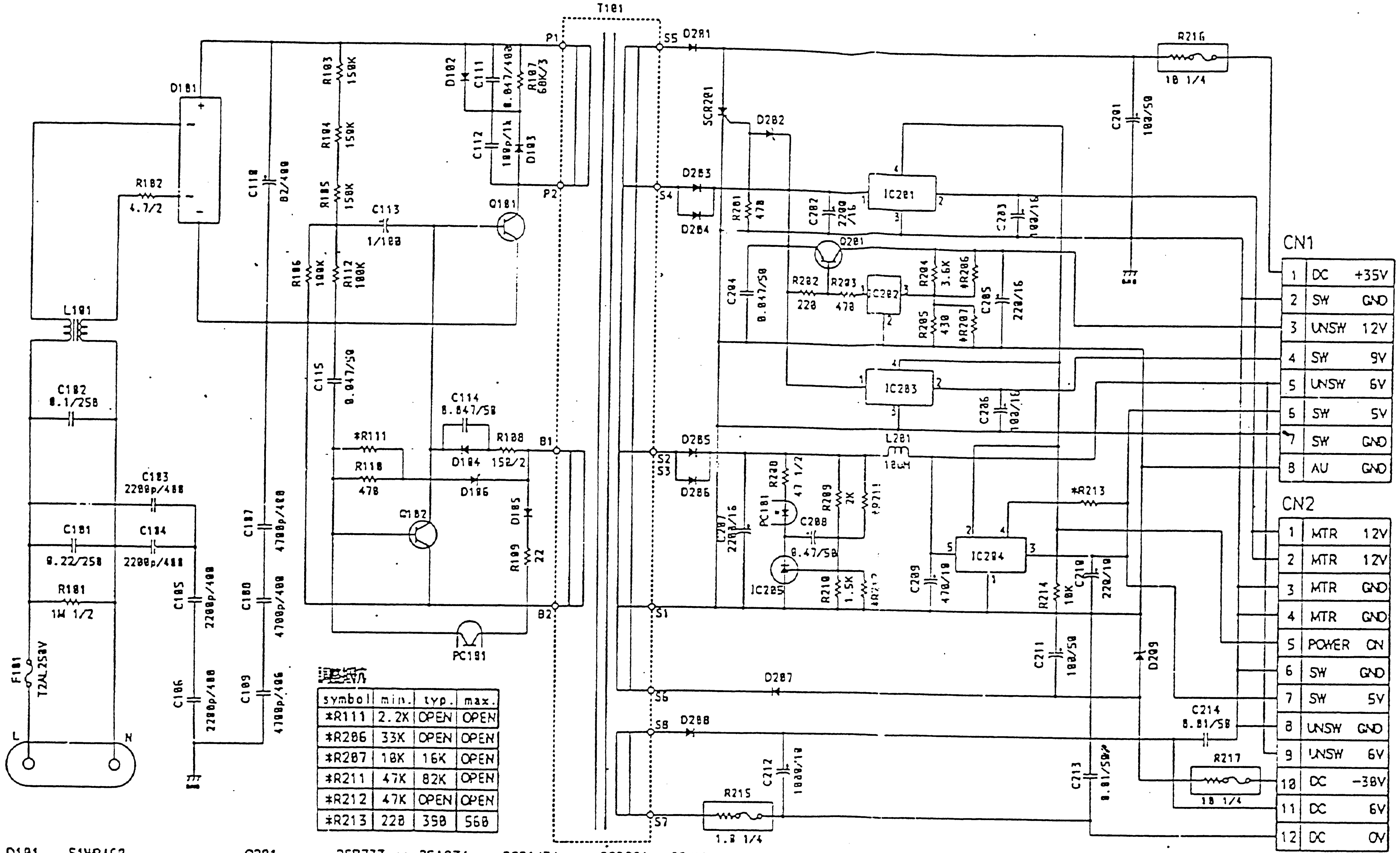

CHARACTER
CV601
IC602
IC603
CN602
10
1
AFC ADJ
RV601
CN601
12
1

-187

35

SLV-725 ~~EE~~ AEP/B/NC

SONY


T101
P1
P2
B1
B2
D101
R102 4.7/2
C110 82/400
R103 150K
R104 150K
R105 150K
D102
C111 0.047/400
R107 68K/3
C112 100p/1k
D103
C113 1/100
Q101
R106 100K
R112 100K
L101
C102 0.1/250
C103 2200p/400
C101 0.22/250
C104 2200p/400
R101 1M 1/2
F101 T2AL250V
L
N
C105 2200p/400
C106 2200p/400
C107 4700p/400
C108 4700p/400
C109 4700p/400
C115 0.047/50
C114 0.047/50
*R111
R110 470
R108 150/2
D104
D106
D105
R109 22
Q102
PC101
S5
S4
S2
S3
S1
S6
S8
S7
D201
SCR201
D202
D203
D204
R201 470
C207 220/16
IC201
C203 100/16
C201 100/50
R216 10 1/4
Q201
C204 0.047/50
R202 220
R203 470
IC202
R204 3.6K
*R206
R205 430
*R207
C205 220/16
IC203
C206 100/10
D205
D206
L201 10μH
C202 220/16
PC101
R230 47 1/2
C208 0.47/50
IC205
R209 2K
*R211
R210 1.5K
*R212
*R213
IC204
C209 470/10
R214 10K
C210 220/10
C211 100/50
D209
D207
D208
C212 1000/10
R215 1.0 1/4
C213 0.01/50
C214 0.01/50
R217 10 1/4
CN1
1 DC +35V
2 SW GND
3 UNSW 12V
4 SW 9V
5 UNSW 6V
6 SW 5V
7 SW GND
8 AU GND
CN2
1 MTR 12V
2 MTR 12V
3 MTR GND
4 MTR GND
5 POWER ON
6 SW GND
7 SW 5V
8 UNSW GND
9 UNSW 6V
10 DC -30V
11 DC 6V
12 DC 0V

[illegible]

symbol	min.	typ.	max.
*R111	2.2K	OPEN	OPEN
*R206	33K	OPEN	OPEN
*R207	10K	16K	OPEN
*R211	47K	82K	OPEN
*R212	47K	OPEN	OPEN
*R213	220	350	560

D101	S1WBA60	
D102	ERA15-06 or AM01A	
D103	ERA22-08 or EG01C	
D104	ERA15-02 or 11ES2	
D105	MA165	
D106	RD3.0ES or MA4030	
Q101	2SC4231	
Q102	2SC3377	
PC101	ON3171	
Q201	2SB733 or 2SA934 or 2SB1434	
D201, 207	AU02Z or ERA18-02	
D202	RD16JSB or MA4160	
D203, 204	S3L20U or ERC91-02 or RL4Z	
D205, 206	D3S4M or RK44 or ERC81-004	
D208	AK04 or ERA83-004	
D209	RD39ES or MA4390	
SCR201	2P4M	
IC201	PQ12RF13	
IC202	M5237L	
IC203	PQ09RF11	
IC204	SI-3050CA	
IC205	HA17431 or AN1431T	

単位	抵抗	Ω/W （指定なきは1/4W）
	コンデンサ	μF/V （p 表示はpF）

HISTORY COUNT | SUFFIX REPL | ECN-NO DATE | REVISION | SIGN.

DRAWN BY | PLANNED BY | CHECKED BY | APPROVED BY | TENTATIVE

MODEL VSX-1761

PART NO. 0-479-456-01

UNIT mm
ANGLE 3rd
SCALE
TOLERANCE
USED ON
RANK
FAMILY
ORIGINAL MODEL VSX-1761
MATERIAL (COLOR)
FINISH (COLOR)
DESCRIPTION
(E)
(J) SR-425回路図
PART NO.
SB-D1594
1-413-756-11
SHEET 10

ISSUED . .

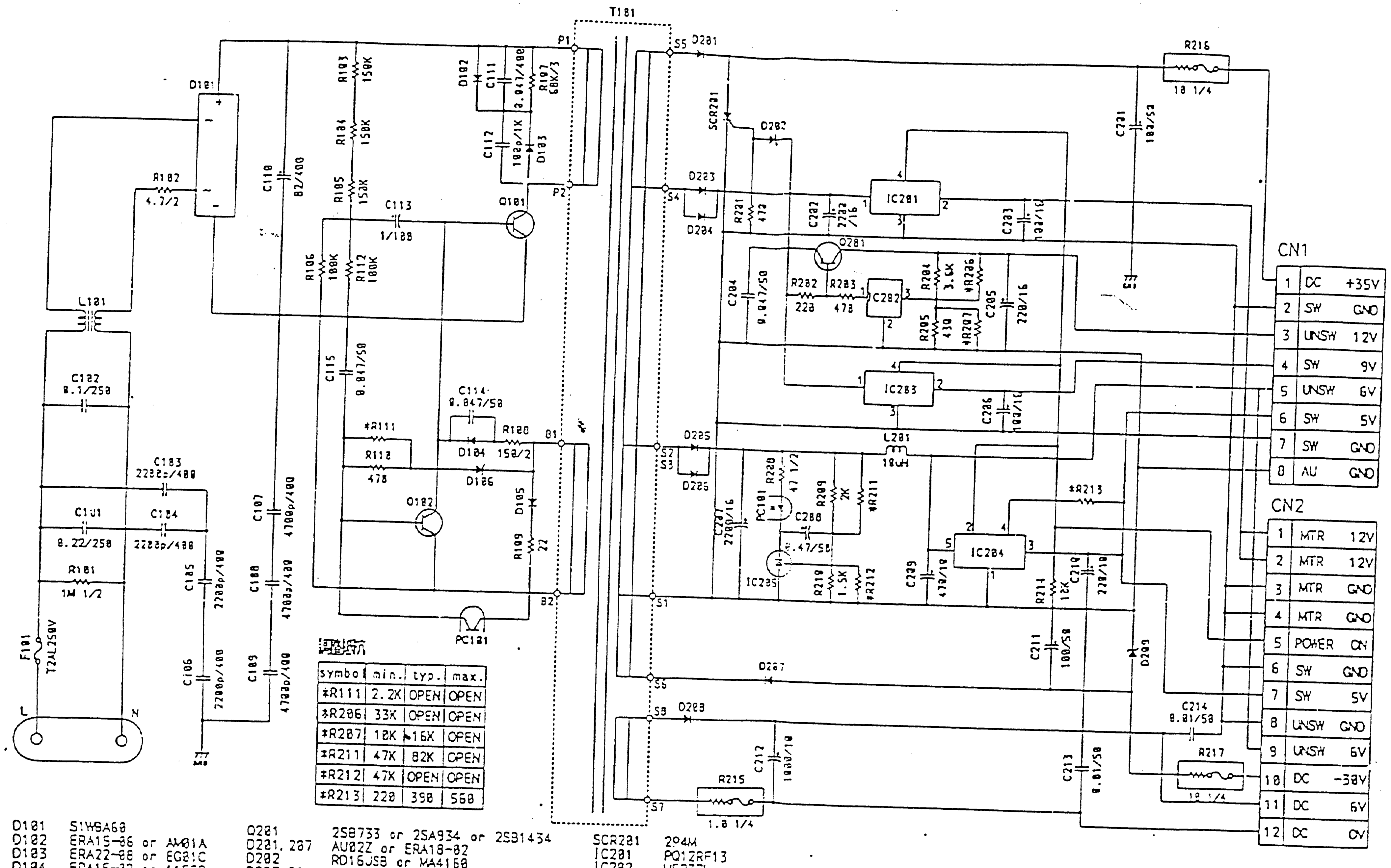
REVISED . .

UPL. POWER BLOCK

A3

SLV-835 UY / UK2   SLV-825 UB

SONY



T181
P1
P2
S5
S4
S2
S3
S1
S6
S8
S7
B1
B2
D181
D182
D183
D184
D185
D186
D201
D202
D203
D204
D205
D206
D207
D208
D209
R102 4.7/2
R103 150K
R104 150K
R105 150K
R106 100K
R107 68K/3
R109 22
R111
R112 470
R120 150/2
R181 1M 1/2
R202 220
R203 470
R204 3.6K
R205 430
R206
R207
R208 47 1/2
R209 2K
R210 1.5K
R211
R212
R213
R214 12K
R215 1.0 1/4
R216 10 1/4
R217 10 1/4
R221 470
C101 0.22/250
C102 0.1/250
C103 2200p/400
C104 2200p/400
C105 2200p/400
C106 2200p/400
C107 4700p/400
C108 4700p/400
C109 4700p/400
C110 82/400
C111 0.047/400
C112 100p/1K
C113 1/100
C114 0.047/50
C115 0.047/50
C202 2200/16
C203 100/10
C204 0.047/50
C205 220/16
C206 100/10
C207 2200/16
C208 0.47/50
C209 470/10
C210 220/10
C211 100/50
C212 1000/10
C213 0.01/50
C214 0.01/50
C721 100/50
Q101
Q102
Q201
PC101
IC201
IC202
IC203
IC204
IC205
SCR201
L101
L201 10uH
F101 T2AL250V
L
N
CN1
1 DC +35V
2 SW GND
3 UNSW 12V
4 SW 9V
5 UNSW 6V
6 SW 5V
7 SW GND
8 AU GND
CN2
1 MTR 12V
2 MTR 12V
3 MTR GND
4 MTR GND
5 POWER ON
6 SW GND
7 SW 5V
8 UNSW GND
9 UNSW 6V
10 DC -30V
11 DC 6V
12 DC 0V

調整所

symbol	min.	typ.	max.
*R111	2.2K	OPEN	OPEN
*R206	33K	OPEN	OPEN
*R207	10K	16K	OPEN
*R211	47K	82K	OPEN
*R212	47K	OPEN	OPEN
*R213	220	390	560

D101	S1WBA60
D102	ERA15-06 or AM01A
D103	ERA22-08 or EG01C
D104	ERA15-02 or 11ES2
D105	MA165
D106	RO3.0ES or MA4030
Q101	2SC4231
Q102	2SC3377
PC101	PS2561

Q201	2SB733 or 2SA934 or 2SB1434
D201, 207	AU02Z or ERA18-02
D202	RD16JSB or MA4160
D203, 204	S3L20U or ERC91-02 or RL4Z
D205, 206	D3S4M or RK44 or ERC81-004
D208	AK04 or ERA83-004
D209	RD39ES or MA4390

SCR201	2P4M
IC201	PQ12RF13
IC202	M5237L
IC203	PQ09RF11
IC204	SI-3050CA
IC205	HA17431 or AN1431T

記	抵抗	Ω/W (指定なきは1/4W)
	コンデンサ	μF/V (p 表示は pF)

△x			—		
△x			—		
△x			—		
△x			—		
△x			—		
△x			—		
HISTORY ×COUNT	SUFFIX REPL	ECN-DATE		REVISION	SIGN.

UNIT	mm
ANGLE	3rd
SCALE	
TOLERANCE	
USED ON	
RANK	
FAMILY	
ORIGINAL MODEL	VSX-1760
MATERIAL (COLOR)	
FINISH (COLOR)	
DESCRIPTION (E)	
(J)	SR-426 回路図
DRAWN BY	
PLANNED BY	
CHECKED BY	
APPROVED BY	
TENTATIVE MODEL	VSX-1760
TENTATIVE PART NO.	0-479-512-01
PART NO.	SB-D1914 1-413-757-11
SHEET	10

ISSUED ______

REVISED ______

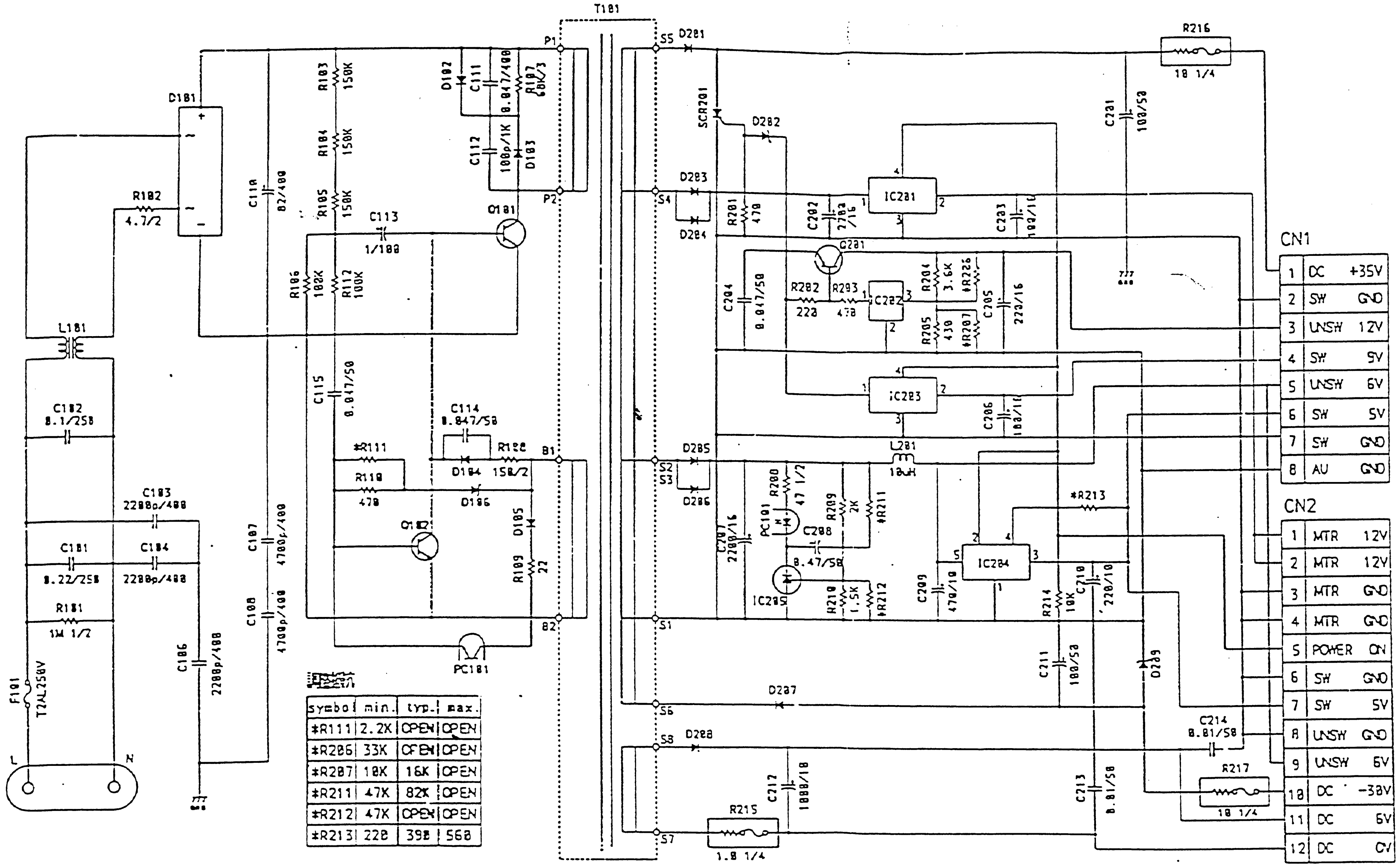
A3

SLV-725VC / 835VC

SONY

A B C D E F G H

SCALE FOR MICROFILM


T101
R216
18 1/4
D201
SCR201
D202
C201
100/50
D101
+
-
R102
4.7/2
C110
82/400
R103 150K
R104 150K
R105 150K
C113
1/100
Q101
D102
C111
0.047/400
R107
68K/3
C112
100p/1K
D103
P1
P2
S5
S4
D203
D204
R201 470
C202 2700/16
IC201
C203 100/10
Q201
C204 0.047/50
R202 220
R203 470
IC202
R204 3.6K
*R206
*R207
R205 430
C205 220/16
IC203
C206 100/10
R106 100K
R112 100K
L101
C102
0.1/250
C115
0.047/50
*R111
R110
470
C114
0.047/50
R108
150/2
D104
D106
B1
D105
R109
22
Q102
C103
2200p/400
C101
0.22/250
C104
2200p/400
C107
4700p/400
C108
4700p/400
R101
1M 1/2
B2
PC101
F101
T2AL250V
C106
2200p/400
L
N
S2
S3
D205
D206
L201
10uH
R208 47 1/2
C208 0.47/50
R209 2K
*R211
C207 2200/16
IC205
R210 1.5K
*R212
*R213
C209 470/10
IC204
R214 10K
C210 220/10
S1
C211 100/50
D209
D207
S6
S8
D208
C214
0.01/50
C217
1000/10
C213
0.01/50
R217
10 1/4
R215
1.8 1/4
S7
CN1
1 DC +35V
2 SW GND
3 UNSW 12V
4 SW 5V
5 UNSW 6V
6 SW 5V
7 SW GND
8 AU GND
CN2
1 MTR 12V
2 MTR 12V
3 MTR GND
4 MTR GND
5 POWER ON
6 SW GND
7 SW 5V
8 UNSW GND
9 UNSW 6V
10 DC -30V
11 DC 6V
12 DC CV

調整抵抗

symbol	min.	typ.	max.
*R111	2.2K	OPEN	OPEN
*R206	33K	OPEN	OPEN
*R207	10K	16K	OPEN
*R211	47K	82K	OPEN
*R212	47K	OPEN	OPEN
*R213	220	390	560

D101	S1WBA60
D102	ERA15-06 or ~~AM01A~~
D103	ERA22-08 or EG01C
D104	ERA15-02 or 11ES2
D105	MA165
D106	RO3.8ES or MA4030
Q101	2SC4231
Q102	2SC3377
PC101	ON3171

Q201	2SB733 or 2SA934 or 2SB1434
D201, 207	AU02Z or ~~ERA15-02~~
D202	RD15JSB or ~~MA4150~~
D203, 204	S3L20U or ERC91-02 or RL4Z
D205, 206	D3S4M or ~~RK44~~ or ERC81-004
D208	AK04 or ~~ERA83-004~~
D209	RD39ES or ~~MA4390~~

SCR201	2P4M
IC201	PQ12RF13
IC202	M5237L
IC203	PQ09RF11
IC204	SI-3050CA
IC205	HA17431 or AN1431T

単位	抵抗	Ω/W（指定なき物1/4W）
	コンデンサ	μF/V（p表示はpF）

DRAWING (TYPE D 30)

SONY STANDARD

HISTORY ×COUNT	SUFFIX REPL	ECN-NO. DATE	REVISION	SIGN.
△×		—		
△×		—		
△×		—		
△×		—		
△×		—		
△×		—		

DRAWN BY | PLANNED BY | CHECKED BY | APPROVED BY

TENTATIVE MODEL VSX-1762

PART NO 0-479-513-01

UNIT mm

ANGLE 3rd

SCALE

TOLERANCE

USED ON

RANK

FAMILY

ORIGINAL MODEL VSX-1762

MATERIAL (COLOR)

FINISH (COLOR)

DESCRIPTION

(E)

(J) SR-427 回路図

PART NO. SB-D1595

1-413-758-11

SHEET 10

ISSUED

REVISED

A3

KPL POWER BLOCK

R 210	1-215-425-00	1.5K	
R 211	FOR ADJUSTMENT		
R 212	〃		
R 213	〃		
R 214	1-249-429-11	10K 1/4W	
R 215	1-219-149-11	FUSE RESISTOR 1 Ω 1/4W	
R 216	1-219-112-11	〃 10 Ω 1/4W	
R 217	〃	〃	
D 101	8-719-510-06	S1WA60	
D 102	8-719-304-63	RM11C	(ORIGINAL ERA15-06)
D 103	8-719-948-45	ERA22-08	
D 104	8-719-200-02	10E-2	
D 105	8-719-812-20	ISS120	(ORIGINAL MA165)
D 106	8-719-109-63	RD3, 0ES-B2	
Q 101	8-729-204-94	2SC3559	(ORIGINAL 2SC4231)
Q 102	8-729-265-52	2SC2655	(〃 2SC3377)
PC 101	9-903-923-01	ON3171	
Q 201	8-729-140-93	2SB733-34	
D 201	8-719-313-16	AU02A	(ORIGINAL ERA18-02)
D 202	8-719-114-82	RD16JSB1	
D 203	8-719-920-67	ERC91-02	
D 204	〃	〃	
D 205	8-719-981-00	ERC81-004	
D 206	〃	〃	
D 207	8-719-313-16	AU02A	
D 208	8-719-980-73	ERA83-006	(ORIGINAL ERA83-004)
D 209	8-719-110-88	RD39ES-B	(〃 MA4390)
SCR 201	8-719-104-17	2P5M	(ORIGINAL 2P4M 500V →600V)
IC 201	NOTHING	PQ12RF13	(PQ12RF11 9-902-066-01)
IC 202	8-759-632-07	M5237L	
IC 203	9-902-066-01	PQ12RF11	
IC 204	8-749-920-43	SI3050CA	(SI-3050CA)
IC 205	8-759-420-19	AN1431T	(ORIGANAL HA17431P)
L 181	1-421-915-11	CHALK COIL	
L 201	9-998-937-01	〃 10 μF	
AC INLET	1-540-054-11	AC INLET	
T 101	NO SUBSTITUTION (SWITCHING TRANSE)		

REF NO.	P/N	REMARKS
F 181	1-532-203-00	2A 250V
C 101	1-130-711-00	0.22 μF/250V
C 102	1-130-710-00	0.1 μF/250V
C 103	1-161-742-00	CERAMIC 2200PF/400V
C 104	1-161-742-00	〃
C 105	〃	〃
C 106	〃	〃
C 107	1-162-599-12	CERAMIC 4700PF/400V
C 108	〃	〃
C 109	〃	〃
C 110	1-125-497-11	100 μF/400V (ORIGINAL 82 μF/400V)
C 111	1-136-207-11	0.047 μF/600V (〃 400V)
C 112	1-162-558-11	100PF/2KV
C 113	1-126-772-11	1 μF/100V
C 114	1-137-420-11	MAILAR 0.047 μF/100V
C 115	〃	〃
C 201	1-124-122-11	100 μF/50V (85 DEG TYPE)
C 202	1-128-320-11	2200 μF/16V (105 DEG TYPE)
C 203	1-126-933-11	100 μF/16V (85 DEG TYPE)
C 204	1-137-420-11	MAILAR 0.047 μF/100V
C 205	1-126-934-11	220 μF/16V
C 206	1-126-933-11	100 μF/16V
C 207	1-128-320-11	2200 μF/16V (105 DEG TYPE)
C 208	1-124-902-11	0.47 μF/50V
C 209	1-126-947-11	470 μF/16V (85 DEG TYPE)
C 210	1-126-934-11	220 μF/16V (〃)
C 211	1-124-122-11	100 μF/50V (〃)
C 212	1-124-557-11	1000 μF/25V (〃)
C 213	1-137-370-11	MAILAR 0.01 μF/50V
C 214	〃	〃
R 101	1-214-937-00	1M 1/2W
R 102	1-216-377-11	4.7Ω/2W (ORIGINAL 4.7Ω/2W CEMENT)
R 103	1-247-883-00	150K 1/4W
R 104	〃	〃
R 105	〃	〃
R 106	1-249-441-11	100K 1/4W
R 107	1-215-928-11	68K/3W
R 108	1-215-887-11	150Ω/2W
R 109	1-249-397-11	22 Ω 1/4W
R 110	1-249-413-11	470 1/4W
R 111	FOR ADJUSTMENT	
R 112	1-249-441-11	100K 1/4W
R 201	1-249-413-11	470 1/4W
R 202	1-249-409-11	220 1/4W
R 203	1-249-413-11	470 1/4W
R 204	1-247-844-11	3.6K 1/4W
R 205	1-247-822-11	430 1/4W
R 206	FOR ADJUSTMENT	
R 207	〃	
R 208	1-260-348-11	47 1/2W
R 209	1-247-838-00	2K

REF NO.	P/N	REMARKS
F 181	1-532-203-00	2A 250V
C 101	1-130-711-00	0.22 μF/250V
C 102	1-130-710-00	0.1 μF/250V
C 103	1-161-742-00	CERAMIC 2200PF/400V
C 104	1-161-742-00	〃
C 105	〃	〃
C 106	〃	〃
C 107	1-162-599-12	CERAMIC 4700PF/400V
C 108	〃	〃
C 109	〃	〃
C 110	1-125-497-11	100 μF/400V (ORIGINAL 82 μF/400V)
C 111	1-136-207-11	0.047 μF/600V (〃 400V)
C 112	1-162-558-11	100PF/2KV
C 113	1-126-772-11	1 μF/100V
C 114	1-137-420-11	MAILAR 0.047 μF/100V
C 115	〃	〃
C 201	1-124-122-11	100 μF/50V (85 DEG TYPE)
C 202	1-128-320-11	2200 μF/16V (105 DEG TYPE)
C 203	1-126-933-11	100 μF/16V (85 DEG TYPE)
C 204	1-137-420-11	MAILAR 0.047 μF/100V
C 205	1-126-934-11	220 μF/16V
C 206	1-126-933-11	100 μF/16V
C 207	1-128-320-11	2200 μF/16V (105 DEG TYPE)
C 208	1-124-902-11	0.47 μF/50V
C 209	1-126-947-11	470 μF/16V (85 DEG TYPE)
C 210	1-126-934-11	220 μF/16V (〃)
C 211	1-124-122-11	100 μF/50V (〃)
C 212	1-124-557-11	1000 μF/25V (〃)
C 213	1-137-370-11	MAILAR 0.01 μF/50V
C 214	〃	〃
R 101	1-214-937-00	1M 1/2W
R 102	1-216-377-11	4.7Ω/2W (ORIGINAL 4.7Ω/2W CEMENT)
R 103	1-247-883-00	150K 1/4W
R 104	〃	〃
R 105	〃	〃
R 106	1-249-441-11	100K 1/4W
R 107	1-215-928-11	68K/3W
R 108	1-215-887-11	150Ω/2W
R 109	1-249-397-11	22 Ω 1/4W
R 110	1-249-413-11	470 1/4W
R 111	FOR ADJUSTMENT	
R 112	1-249-441-11	100K 1/4W
R 201	1-249-413-11	470 1/4W
R 202	1-249-409-11	220 1/4W
R 203	1-249-413-11	470 1/4W
R 204	1-247-844-11	3.6K 1/4W
R 205	1-247-822-11	430 1/4W
R 206	FOR ADJUSTMENT	
R 207	〃	
R 208	1-260-348-11	47 1/2W
R 209	1-247-838-00	2K

REF NO.	P/N	REMARKS
F 181	1-532-203-00	2A 250V
C 101	1-130-711-00	0.22 µF/250V
C 102	1-130-710-00	0.1 µF/250V
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C 104	1-161-742-00	〃
C 105	〃	〃
C 106	〃	〃
C 107	1-162-599-12	CERAMIC 4700PF/400V
C 108	〃	〃
C 109	〃	〃
C 110	1-125-497-11	100 µF/400V (ORIGINAL 82 µF/400V)
C 111	1-136-207-11	0.047 µF/600V (〃 400V)
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C 113	1-126-772-11	1 µF/100V
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C 204	1-137-420-11	MAILAR 0.047 µF/100V
C 205	1-126-934-11	220 µF/16V
C 206	1-126-933-11	100 µF/16V
C 207	1-128-320-11	2200 µF/16V (105 DEG TYPE)
C 208	1-124-902-11	0.47 µF/50V
C 209	1-126-947-11	470 µF/16V (85 DEG TYPE)
C 210	1-126-934-11	220 µF/16V (〃)
C 211	1-124-122-11	100 µF/50V (〃)
C 212	1-124-557-11	1000 µF/25V (〃)
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R 108	1-215-887-11	150Ω/2W
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R 110	1-249-413-11	470 1/4W
R 111	FOR ADJUSTMENT	
R 112	1-249-441-11	100K 1/4W
R 201	1-249-413-11	470 1/4W
R 202	1-249-409-11	220 1/4W
R 203	1-249-413-11	470 1/4W
R 204	1-247-844-11	3.6K 1/4W
R 205	1-247-822-11	430 1/4W
R 206	FOR ADJUSTMENT	
R 207	〃	
R 208	1-260-348-11	47 1/2W
R 209	1-247-838-00	2K

R 210	1-215-425-00	1.5K	
R 211	FOR ADJUSTMENT		
R 212	″		
R 213	″		
R 214	1-249-429-11	10K 1/4W	
R 215	1-219-149-11	FUSE RESISTOR 1 Ω 1/4W	
R 216	1-219-112-11	″ 10 Ω 1/4W	
R 217	″	″	
D 101	8-719-510-06	S1WA60	
D 102	8-719-304-63	RM11C	(ORIGINAL ERA15-06)
D 103	8-719-948-45	ERA22-08	
D 104	8-719-200-02	10E-2	
D 105	8-719-912-20	ISS120	(ORIGINAL MA165)
D 106	8-719-109-63	RD3.0ES-B2	
Q 101	8-729-204-94	2SC3559	(ORIGINAL 2SC4231)
Q 102	8-729-265-52	2SC2655	(″ 2SC3377)
PC 101	9-903-923-01	ON3171	
Q 201	8-729-140-93	2SB733-34	
D 201	8-719-313-16	AU02A	(ORIGINAL ERA18-02)
D 202	8-719-114-82	RD16JSB1	
D 203	8-719-920-67	ERC91-02	
D 204	″	″	
D 205	8-719-981-00	ERC81-004	
D 206	″	″	
D 207	8-719-313-16	AU02A	
D 208	8-719-980-78	ERA83-006	(ORIGINAL ERA83-004)
D 209	8-719-110-88	RD39ES-B	(″ MA4390)
SCR 201	8-719-104-17	2P5M	(ORIGINAL 2P4M 500V →600V)
IC 201	NOTHING	PQ12RF13	(PQ12RF11 9-902-066-01)
IC 202	8-759-632-07	M5237L	
IC 203	9-902-066-01	PQ12RF11	
IC 204	8-749-920-43	SI3050CA	(SI-3050CA)
IC 205	8-759-420-19	AN1431T	(ORIGANAL HA17431P)
L 181	1-421-915-11	CHALK COIL	
L 201	9-998-937-01	″ 10 μF	
AC INLET	1-540-054-11	AC INLET	
T 101	NO SUBSTITUTION (SWITCHING TRANSE)		

SLV-725/B/NC/VC
RMT-V127

SONY
SERVICE MANUAL

AEP Model
SLV-725
French Model
SLV-725B
North European Model
SLV-725NC
Germany Model
Swiss Model
SLV-725VC

CORRECTION-2

Correct your service manual as shown below.

☛ :indicates corrected portion.

Page	INCORRECTION			CORRECTION		
	Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
141	26	3-948-143-31	DOOR (NC)	26	3-951-156-01 ☛	DOOR

9-973-307-92

Sony Corporation
Home Video Group

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